Vol 59 (2010) ISSN 0959-4787

Sea Swallow

Annual Report of the Royal Naval Birdwatching Society

£12 (US$22)

Whiskered Tern *Childonias hybridus*, Goolwa South Australia. 22 December 2009. *Photo:* Neil Cheshire.

OFFICERS OF THE ROYAL NAVAL BIRDWATCHING SOCIETY

(Registered Charity No. 207619)

www.rnbws.org.uk

Patron:

His Royal Highness The Duke of Edinburgh, KG, KT, OM, GBE

President:

Vice Admiral Sir David Dobson, KBE

Vice Presidents:

The Master, The Honourable Company of Master Mariners

Captain P Duncan Royal Navy

Executive Committee

Chairman: RAdm Martin Alabaster, Flag Officer Scotland, Northern England and Northern Ireland, HM Naval Base, Clyde, HELENSBURGH, Scotland

Vice Chairman RN: Cdre Chris Peach RN, Old School House, Curtisknowle, TOTNES, Devon, TQ7 7JU **E** peachcc@aol.com

Vice Chairman MN and Seabird Records Coord: Capt Neil Cheshire MN, 7 Hodge Avenue, Encounter Bay, South Australia 5211, Australia **E** diomedea@iinet.com.au

Honorary Treasurer: CPO Steve Copsey, 20, Shephards Close, FAREHAM, Hants PO14 3AJ. T 01329 319213. **E** copsey@tesco.net

Editor of *Sea Swallow*: Gary Lewis, 40 Pondfield Road, SALTASH, Cornwall PL12 4UA **E** gary.lewis@cornwallwildlifetrust.org.uk

Expeditions Officer: Maj Pete Carr RM, 6 Grenadier Close, LOCKS HEATH, Hampshire, SO31 6UE **E** petecarr1@hotmail.com

Field Trips Co-ordinator: CPO Mark Cutts, 131 Browning Close, PORTSMOUTH Hants PO6 4PG **E** blighty2@ntlworld.com

Landbirds Records Coordinator: SLt Chris Patrick RN, 91 Goldcroft Rd, WEYMOUTH, Dorset DT4 0EA **E** chrispatrick@talktalk.net

For details of Local Representatives and other useful addresses, see back page.

Aims and Activities: The primary aim of the Society is to promote a forum for the exchange of information on seabirds, and of landbirds at sea, by members for whom birdwatching is a spare-time recreation and hobby. The secondary aim is to co-ordinate the efforts of individual members using standardised recording methods so that observations can be of value to the professional ornithologist ashore. In addition to the promotion of observations afloat, the RNBWS organises fieldwork and expeditions, usually in cooperation with the Army and RAF Ornithological Societies.

Membership: has been widened from the RN to include those, regardless of nationality, who share a common background of the sea. Instructions for joining can be found on the Society Website and at the back of *Sea Swallow*.

Subscription Rates: Full and associate members £12 annually. Due 1 January.

Library rates: Cost of *Sea Swallow*, (£12) plus postage.

RNBWS Record Forms - can be found on the Society Website at www.rnbws.org.uk. Completed forms should be sent to the Gen Sec or Editor of SS for onward transmission.

Material for publication in *Sea Swallow* should be sent to the Editor. Instructions to authors can be found towards the back of this issue.

Sea Swallow 59 (2010)

CONTENTS

CHAIRMAN'S FOREWORD 4

EDITORIAL 5

NOTES ON SEABIRD REPORTS RECEIVED 2009/10 6
Neil Cheshire

A BIRD WATCHING TRIP TO THE FALKLAND ISLANDS 26
AND A DREAM COME TRUE
John O'Connell-Davidson

SEABIRDS OF HONG KONG 34
Geoffrey Welch

STABLE ISOTOPES IN SEABIRD STUDIES: 42
MATHEMATICAL MODELLING OF DIET COMPOSITION
Alexander L. Bond

SEAWATCH SW ANNUAL REPORT 2009 46
Russell B Wynn and Alice R Jones (NOCS and SeaWatch SW)
Tom M Brereton and Kate M Lewis (Marinelife)

OBITUARY - COMMANDER FRANK WARD ROYAL NAVY 56
David Dobson

A TAIL PIECE 58
Stan Howe

CHAIRMAN'S FOREWORD

My feelings about the Society's year are dominated by the huge sadness I feel about our loss of Frank Ward. A proper obituary, quite rightly, appears within this issue of *Sea Swallow* but I could not sensibly complete my foreword without paying tribute to Frank and all that he did as a pivotal figure in the Society. This was particularly the case in recent years when, as General Secretary, he devoted a great deal of time and effort to pulling all the threads together most effectively and keeping everything running smoothly. The Society greatly misses his efforts and we all greatly miss him as a friend.

With Frank's absence and other Executive Committee members abroad, deployed at sea or heavily committed elsewhere, it has been something of a hand-to-mouth existence over the past few months and I am grateful to all those who have stepped in to fill tasks so willingly. In particular, I should mention Gary Lewis who has, once again, pulled together an excellent edition of *Sea Swallow* for us despite his pressure of work at the Cornwall Wildlife Trust. The issue allows us to see some of the work the Society is supporting through the Captain Simpson Scholarship scheme, particularly an update on Russell Wynn's efforts on Balearic Shearwaters and others, through Seawatch South West and Alex Bond's work on the mathematical modelling of seabird diet composition.

Looking to the future, the Committee still has some work to do to put the organisation back onto a sound footing for the future to ensure that we can continue the programme of field-trips, production of *Sea Swallow*, development of the database, support to research, and maintain the underpinning administration in an effective way. So if, as a member reading this, you feel you may have even a modest amount of time to offer then please let one of us know. As for aspirations, I still aim to grow the society at a sustainable rate - particularly with younger members and I will be putting particular effort into improving the levels of bird reporting returns from the RN Fleet over the next year.

Martin Alabaster

EDITORIAL

Another year and another edition of *Sea Swallow*; this is my 10th and whilst I had hoped to hand over the reins to a new Editor, it appears I am remaining in post for the immediate future.

Although this is a slimmer edition than recently, the articles remain of a high quality and varied content. The Captain Simpson Scholarships are beginning to show returns and two of the articles show the positive benefit that our grants are achieving. I have been involved with Seawatch SW project and, as they move towards their 4th year, our knowledge of Balearic Shearwater is increasing exponentially.

As already mentioned, the Society mourns the loss of Frank Ward. As General Secretary, he provided sterling support to me and I shall miss him both as a colleague and as a birding companion. The obituary in this edition cannot do full justice to a man who was the driving force and beating heart of the Society.

Please keep sending in your seabird and landbird at sea records and if you have an article brewing then don't be shy - all will be gratefully accepted.

Gary Lewis

Lesser Frigatebird *Fregata ariel* (immature stage 1) - an annual visitor to Hong Kong waters. *Photograph:* Geoff Welch.

NOTES ON SEABIRD REPORTS RECEIVED 2009-2010

by Neil Cheshire

Thomas Johannsen sent notes of interesting observations made on two voyages from eastern Australia through the central Pacific to East Asia. David Curtis with various co-observers made detailed notes during 43 voyages from 2006 to 2009 on the ferry route from Plymouth/ Portsmouth to Santander and return, and has accumulated a valuable data set worthy of a more detailed analysis than can be attempted here. Simon Cook who is employed as an ornithological guide aboard expedition vessels sent extensive notes from the Antarctic Peninsula and the Atlantic Islands. All observers are thanked for their participation.

Capt.M.K.Barritt.RN	*m.v Volcan de Taburiente* Canary Islands, April 2010, 1C. *m.v.Tina m.v.Benchijigua Express.*
Neil G Cheshire	*f.v.Remarkable*, Off South Australia, Nov 2009, Jan 2010, April 2010, 6C.
Simon Cook	m.s.*Expedition* Canary Islands Dec 2009, 3C. m.v.*Polar Star* Ushuaia to Antarctic Peninsula, 3 return voyages, Jan-Feb 2010 28C+1N m.v.*Professor Molchanov* Ushuaia- Antarctic Peninsula-South Orkneys-South Georgia- Gough I.- Tristan da Cunha- Cape Verde Is.- Canary Is. March- May 2010. 35C + 1N
David Curtis *et. al*	Brittany Ferries Plymouth/Portsmouth-Santander and return each month July-Oct 2006, March-Oct 2007, April-Oct 2008, March-July 2009 43C + 2 charts.
Capt.Thomas Johannsen MN	*m.v. Albert Oldendorff*, Gladstone(Aus) - Hong Kong-Cam Pha Viet Nam- Gladstone- Lianyungang(China) Jan-March 2010. 10C.

Observers are referred to by their initials. Dates refer to 2010 unless otherwise listed. Positions are given in degrees and decimals of degrees of latitude and longitude.
nm = nautical miles (1.852 km), Ad = Adult, h = hours, imm = immature, C = census sheets, N = notes.

PENGUINS *Spheniscidae*

King Penguin ***Aptenodytes patagonicus***. SC observed five in the Scotia Sea at 55.5S 36.7W on 30 March and one at 54.0S 37.0W, NW of South Georgia on 1 April.

Emperor Penguin ***Aptenodytes forsteri***. One seen swimming and diving at the northern end of Antarctic Sound, 63.3S 57.1W on 19 Feb (SC).

Chinstrap Penguin ***Pygoscelis antarctica***. One was seen by SC at 62.5S 59.5W near the South Shetlands on 27 Jan, six in southern Drake Passage at 60.6S 63.3W and 13 at 61.7S 62.6W on 17 Feb, six at 60.9S 60.8W on 25 March, four NE from S.Orkneys at 59.1S 41.8E on 29 March. He also made a remarkable series of observations on 13 Feb, a day of rare calm in Drake Passage, when he saw 19 small groups of Chinstraps, 108 birds in total in 7.6h between 60.8S 60.9W and 59.6S 62.1W with three near and 29 at rest on a low iceberg at 59.5S 62.1W.

Rockhopper Penguin ***Eudyptes chrysocome***. Five were recorded by SC in Drake Passage at 59.0S 64.2W on 2 Feb and one at 57.3S 66.2W on 5 Feb.

Macaroni Penguin ***Eudyptes chrysolophus***. SC recorded two at 58.1S 65.1W on 25 Jan and five in southern Drake Passage at 59.4S 62.2W on 13 Feb.

ALBATROSSES *Diomedeidae*

Wandering Albatross ***Diomedea exulans***. Three were seen at 38.3S 140.4E on the shelf edge off South Australia 38.3S on 18 April (NGC). In Drake Passage SC saw two at 56.2S 66.1W, three at 57.6S 65.6W on 25 Jan, one at 60.7S 63.2W on 2 Feb, six at 57.2S 64.2W and one at 55.8S 66.3W on 3 Feb, 11 at 56.5S 65.7W and three at 57.3S 66.2W on 5 Feb, two at 60.2S 65.5W on 6 Feb, three at 55.6S 66.5W near Cape Horn on 14 Feb, three nearby at 56.0S 65.8W on 16 Feb, one at 61.0S 65.3W on 26 Feb, one at 56.3S 66.6W on 27 Feb, six at 56.9S 64.8W on 24 March and three at 59.1S 41.8W on 29 March. On route to Gough I. he saw seven at 46.5S 20.9W on 5 April and seven the next day at 43.6S 15.5W.

Southern Royal Albatross ***Diomedea epomophora***. One was seen at the shelf edge off South Australia 38.4S 140.6E on 31 Jan (NGC). SC recorded one at 56.2S 66.1W in Drake Passage on 25 Jan, one at 57.2S 64.2W on 3 Feb, three at 56.5S 65.7W and one at 57.3S 66.2W on 5 Feb and two at 56.9S 64.8W near Cape Horn on 24 March.

Black-browed Albatross ***Thalassarche melanophris***. SC observed 26 in 1h at 56.2S 66.1W and six in 1h further south in Drake passage at 57.7S 65.6W on 25 Jan, six at 60.1S 62.4W on 26 Jan and one at 62.5S 59.5W near the South Shetlands on 27 Jan, seven at 60.8S 63.2W and four at 59.9S 63.7W on 2 Feb, seven at 57.2S 64.2W and 158 in 2h at 55.8S 66.3W on 3 Feb, 30+ at 56.5S 65.7W and 18 in 3h at 57.3S 66.2W on 5 Feb, 24 in 4h at 61.0S 65.4W on 6 Feb, 76 at 55.6S 66.5W off Cape Horn on 14 Feb, six nearby at 56.0S 65.8W on 16 Feb, one at 64.5S 64.7W near the Antarctic Peninsula on 25 Feb, 30 at 56.3S 66.6W on 27 Feb, 22 in 3h at 56.9S 64.8W on 24 March, 26 in 4h at 60.9S 60.8W on 25 Mar, 22 at 61.1S 55.7W

near Elephant Island on 27 March, c.300 off Cooper Island, South Georgia on 30 March, 11 at 43.6S 15.5W on 6 April and six at 40.9S 10.8W SW from Gough I. on 7 April. Observed at 38.4S 140.6E on the shelf edge off South Australia, three adults and five imm on 8 Nov'09, 15 at the same position on 31 Jan and 50 nearby at 38.3S 140.4E on 18 April (NGC).

Campbell Albatross ***Thalassarche impavida***. One was seen at 38.4S 140.6E off South Australia on 31 Jan and 75 nearby at 38.3S 140.4E on 18 April (NGC).

Shy Albatross ***Thalassarche cauta***. Over 400 attracted to berley at 38.4S 140.6E on shelf edge off South Australia on 8 Nov'09, 25 at same position on 31 Jan and 300 including both *cauta* and *steadi* sub-species, nearby at 38.3S 140.4E on 18 April (NGC).

Salvin's Albatross ***Thalassarche salvini***. One with 300 Shy Albatross (see above) at 38.3S 140.4E on 18 April (NGC).

Atlantic Yellow-nosed Albatross ***Thalassarche chlororhynchos***. SC saw six near Gough I. on 8 April, nine at 37.4S 12.0W near Tristan the next day and 24 in 4h at 36.6S 12.1W NE from Tristan on 11 April.

Indian Yellow-nosed Albatross *Thalassarche carteri*, 38.4S 140.6E off Port Macdonnell, South Australia. *Photo:* Neil Cheshire.

Indian Yellow-nosed Albatross ***Thalassarche carteri***. Three imm at 38.4S 140.6E on the shelf edge off South Australia on 8 Nov'2009, 20 adults and imm at same position on 31 Jan and one adult at 38.3S 140.4E on 18 April (NGC).

Grey-headed Albatross ***Thalassarche chrysostoma***. Singles were seen by SC in Drake Passage at 56.2S 66.1W and 57.7S 65.6W on 25 Jan and at 60.7S 63.2W on 2 Feb, four at 56.5S 65.7W on 5 Feb, seven at 61S 65.4W on 6 Feb, one at 56.4S 65.3W on 14 Feb, one at 57.5S 65.1W on 16 Feb, one at 61.7S 62.6W on 17 Feb, one imm at 61.0S 65.3W on 26 Feb, 23 in 4h at 60.9S 60.8W on 25 March, 17 at 61.1S 55.7W near Elephant Island on 27 March, 28 in 2h at 61.1S 54.2E on 27 March and 11 at 55.5S 36.7W in the Scotia Sea on 30 March.

Buller's Albatross ***Thalassarche bulleri***. Nine adults were seen at 38.3S 140.4E off South Australia on 18 April (NGC).

Sooty Albatross ***Phoebetria fusca***. SC observed one at 52.1S 32.0W on 3 April, four at 46.5S 20.9W on 5 April, 16 in 4h at 43.6S 15.5W on 6 April, 19 in 4h SW of Gough I. at 40.9S 10.8W on 7 April, 40+ around Gough I on 8 April, seven at 37.4S 12.0W near Tristan on 9 April, three NE of Tristan at 36.6S 12.1W on 11 April and three the following day at 33.0S 11.0W.

Light-mantled Sooty Albatross ***Phoebetria palpebrata***. SC recorded one in Drake Passage at 61.0S 65.4W on 6 Feb, one near Elephant Island at 61.1S 55.8W on 27 March, one at 59.1S 41.8W on 29 March, one at 55.5S 36.7W on 30 March and one at 49.3S 26.3W on 4 April.

FULMARS ***Fulmarinae***

Southern Giant Petrel ***Macronectes giganteus***. SC recorded four at 56.2S 66.1W and two at 57.7S 65.6W in Drake Passage on 25 Jan, singles the next day at 59.6S 63.1W and 60.1S 62.4W, four at 62.5S 59.5W near the South Shetlands on 27 Jan, three at 60.8S 63.2W on 2 Feb, two at 57.2S 64.2W and three at 55.8S 66.3W on 3 Feb, 14 in 4h at 56.5S 65.7W and four at 57.3S 66.2W on 5 Feb, four at 60.2S 65.5W and three at 61.0S 65.4W on 6 Feb, two well to the south off the Antarctic Peninsula at 67.2S 67.6W on 8 Feb, one at 56.8S 64.8W and two near Cape Horn at 55.6S 66.5W on 14 Feb, five at 56.5S 65.6W on 16 Feb, four at 64.5S 64.7W on 25 Feb, 11 at 60.9S 60.8W on 25 March, four at 59.1S 41.8W on 29 March, eight at 46.5S 20.9W on 5 April, three at 43.6S 15.5W on 6 April, one at 37.3S 12.0W on 9 April and 16 in 4h at 36.6S 12.1W NE from Tristan on 11 April.

Northern Giant Petrel ***Macronectes halli***. SC saw one at 56.2S 66.1W on 25 Jan, one at 60.1S 62.4W the next day, one at 59.9S 63.7W on 2 Feb, two at 60.2S 65.5W on 6 Feb, singles at 60.2S 61.5W and 56.8S 64.8W on 13 and 14 Feb, one at 61.0S 65.3W on 26 Feb, one at 61.1S 55.8W on 27 March, six at 59.1S 41.8W on 29 March, six at 55.5S 36.7W in Scotia Sea on 30 March. Five dark immatures were seen at 38.4S 140.6E off South Australia on 8 Nov'09(NGC).

Northern Fulmar ***Fulmarus glacialis***. DC had regular records in the Channel between Plymouth and Ushant and occasional sightings in the Southern Bay of Biscay. Larger concentrations include hourly counts of 25 at 49.6N 4.6W on 22 Aug'06, 35 at 50.2N 4.3W on 29 April'07, 40 near a stern trawler at 49.5N 4.6W on 31 July'07, 71 at 49.8N 4.5W on

Southern Giant Petrel *Macronectes giganteus* Pebble Island.
Photo: John O'Connell-Davidson.

12 Aug'07, 25 at 50.1N 4.3W on 6 April'08, 33 at 49.5N 4.7W on 8 April'08, 136 at 49.4N 4.8W on 4 May'08, 36 at 49.8N 4.5W on 6 May'08, 54 at 49.0N 5.0W on 3 June'08, 45 at 49.9N 3.0W on 25 March'09 and 55 at 49.7N 4.6W on 27 March'09.

Southern Fulmar ***Fulmarus glacialoides***. SC saw 31 at 61.1S 55.8W near Elephant Island on 27 March, 100+ at 61.1S 54.2W on 27 March and one at 59.1S 41.8W on 29 March.

Antarctic Petrel ***Thalassoica antarctica***. SC observed c.20 at 62.5S 59.5W around a tabular iceberg near the South Shetlands on 27 Jan and one in southern Drake passage at 60.9S 60.8W on 25 March.

Cape Petrel ***Daption capense***. SC observed c.50 with Antarctic Petrels (as above) at 62.5S 59.5W off the South Shetlands on 27 Jan, 40+ at 60.8S 63.2W on 2 Feb, one at 56.5S 65.7W on 5 Feb, eight at 61S 65.4W on 6 Feb, five at 61.7S 62.6W on 17 Feb, 130 in 4h at 60.9S 60.8W on 25 March, 24 in 1h at 61.1S 55.7W near Elephant Island on 27 March and 60+ in 3h at 59.1S 41.8W on 29 March.

Snow Petrel ***Pagodroma nivea***. Close to the Antarctic Peninsula SC saw 36 at 67.2S 67.6W on 8 Feb.

Kerguelen Petrel ***Lugensa brevirostris***. SC recorded one at 59.1S 41.8W NE from S.Orkneys on 29 March, three at 55.5S 36.7W in the Scotia Sea on 30 March, 16 in 4h at 49.3S 26.3W on 4 April, one at 43.6S 15.5W on 6 April and 68 in 4h, SW from Gough I. at 40.9S 10.8W on 7 April.

Broad-billed Prion ***Pachyptila vittata***. SC saw a remarkable 20,000+ in 4h, SW from Gough I. at 40.9S 10.8W on 7 April.

Antarctic Prion ***Pachyptila desolata***. SC saw one at 62.5S 59.5W near the South Shetlands on 27 Jan, three at 60.8S 63.2W and three at 59.9S 63.7W on 2 Feb, three at 61.0S 65.4W on 6 Feb, five at 59.4S 62.2W on 13 Feb, 20+ at 60.9S 60.8W on 25 March, nine at 61.1S 55.8W on 27 March , 1,000+ at 59.1S 41.8W on 29 March, c.250 at 55.5S 36.7W Scotia Sea and c.3000 off Cooper Island, South Georgia on 30 March, 68 in 3h at 52.1S 32.0W on 3 April and 14 at 43.6S 15.5W on 6 April.

Slender-billed Prion ***Pachyptila belcheri***. SC reported two at 56.5S 65.7W Drake Passage on 5 Feb.

Fairy Prion ***Pachyptila turtur***. In South Australian waters 20 were seen at 38.3S 140.4E on 8 Nov'09(NGC). SC saw one in the South Atlantic at 46.5S 20.9W on 5 April.

Blue Petrel ***Halobaena caerulea***. In southern Drake Passage SC saw one at 59.6S 63.1W and eight at 60.1S 62.4W on 26 Jan, six at 56.5S 65.7W and one at 57.3S 66.2W on 5 Feb, one at 60.2S 65.5W and four at 61.0S 65.4W on 6 Feb, three at 60.2S 61.5W and two at 59.4S 62.2W on 13 Feb, one at 60.6S 63.3W and three at 61.7S 62.6W on 17 Feb, 43 in 3h at 59.1S 41.8W on 29 March, c.1,000 in 3h at 55.5S 36.7W Scotia Sea on 30 March and an incredible 7,000 off Cooper Island, South Georgia later the same day.

Trindade Petrel ***Pterodroma arminjoniana***. An interesting record from SC, who saw four pale morph birds at 28.6S 9.5W on 13 April. One or more of the birds were around the ship most of the morning and sometimes made a close approach. The nearest breeding colony is at Trindade and Martin Vaz Islands off Brazil at 20.3S 29.8W. He saw one more the next day at 24.1S 8.1W.

Great-winged Petrel ***Pterodroma macroptera***. Both the nominate race *macroptera* and the NZ race *gouldi* were recorded at the shelf edge off South Australia with one nominate and 14 *gouldi* at 38.4S 140.6E on 8 Nov'09, five *gouldi* in same area on 31 Jan and three nominate race at 38.3S 140.4E on 18 April (NGC). SC saw eight in the SW Atlantic at 49.3S 26.3W on 4 April, 14 in 4h at 46.5S 20.9W on 5 April, one at 37.4S 12.0W near Tristan on 9 April, 11 at 36.6S 12.1W NE from Tristan on 11 April and one at 33.0S 11.0W the next day.

White-headed Petrel ***Pterodroma lessonii***. SC recorded one at the southern limit of the species range in southern Drake Passage at 60.9S 60.8W on 25 March.

Atlantic Petrel ***Pterodroma incerta***. Seen by SC when he was approaching Gough I. with six at 46.5S 20.9W on 5 April, four at 43.6S 15.5W on 6 April and 285 in 4h at 40.9S 10.8W on 7 April, two SW from Tristan at 37.4S 12.0W on 9 April, nine in 4h at 36.6S 12.1W NE from Tristan on 11 April and one at 33.0S 11.0W on 12 April.

Fea's Petrel ***Pterodroma feae***. SC recorded the species from the Cape Verde Islands with one at Fogo anchorage 14.9N 24.5W and four at sea off Fogo (where it is a winter breeder) all on 28 April.

Soft-plumaged Petrel ***Pterodroma mollis***. SC recorded one at 56.2S 66.1W in northern Drake Passage on 25 Jan, two at 56.5S 65.7W on 5 Feb, one at 61.0S 65.4W on 6 Feb, one at 56.0S 65.8W off Cape Horn, one at 56.5S 65.6W and two at 57.5S 65.1W on 16 Feb, one at 60.0S 63.7W and seven in 4h at 60.6S 63.3W on 17 Feb, 48 in 3h at 52.1S 32.0W on 3 April, 110 in 3h at 49.3S 26.3W the next day, 120 in 4h at 46.5S 20.9W on 5 April, 140 in 4h at 43.6S 15.5W on 6 April, 320 in 4h SW from Gough I. at 40.9S 10.8W on 7 April, 85 at 37.4S 12.0W near Tristan on 9 April, 70+ in 4h at 36.6S 12.1W NE from Tristan on 11 April and 16 in 4h the next day at 33.0S 11.0W.

Black-capped Petrel ***Pterodroma hasitata***. Howell & Patterson (2008b) discuss and illustrate profusely 'white faced' and 'black-faced' types of the Black-capped Petrel.

Vanuatu Petrel ***Pterodroma (cervicalis) occulta***. Totterman (2009) located a breeding colony on Vanua Lava, Banks Islands, Vanuatu in February 2009. The species was previously known only from six specimens collected by Rollo Beck at sea off Vanuatu in 1927, now in the American Museum of Natural History, and a road killed bird from NSW in 1983. Shirihai & Bretagnolle (2010) provide excellent photographs and discuss field characters of birds they saw off Vanua Lava in December 2009. With an overlap of characteristics with White-necked Petrel *Pterodroma cervicalis*, it cannot be reliably differentiated from that species.

Bulwer's Petrel ***Bulweria bulwerii***. In the South Atlantic SC saw two at 19.7S 6.9W on 15 April, two at 5.4S 15.5W and one at 4.4S 16.0W on 23 April, one at 0.1S 17.9W on 24 April. North of the equator he saw one at 3.2N 19.5W and two at 4.1N 19.7W on 25 April, one at 7.3N 21.1W on 26 April, one at 11.6N 23.0W and one at 12.4N 23.4W on 27 April.

SHEARWATERS ***Procellariinae***

Grey Petrel ***Procellaria cinerea***. In the SW Atlantic SC counted 17 in 2h at 52.1S 32.0W on 3 April, four in 4h at 49.3S 26.3W on 4 April, 22 in 4h at 46.5S 20.9 W on 5 April, nine at 43.6S 15.5W on 6 April and 165 in 4h SW from Gough I. at 40.9S 10.8W on 7 April.

White-chinned Petrel ***Procellaria aequinoctialis***. In Drake Passage SC saw one at 56.2S 66.1W and two at 57.7S 65.6W on 25 Jan, three at 60.1S 62.4W on 26 Jan, eight at 60.8S 63.2W and three at 59.9S 63.7W on 2 Feb, one at 57.2S 64.2W on 3 Feb, four at 56.5S 65.7W and three at 57.3S 66.2W on 5 Feb, three at 59.4S 62.2W on 13 Feb, two at 56.4S 65.3W on 14 Feb, 200+ in 3h at 55.5S 36.7W Scotia Sea on 30 March. Ten were seen at 38.4S 140.6E off South Australia on 8 Nov'09 and two nearby at 38.3S 140.4E on 18 April (NGC).

Spectacled Petrel ***Procellaria conspicillata***. Heading N in the South Atlantic SC saw the first two at 43.6S 15.5W on 6 April, three SW from Gough I. at 40.9S 10.8W on 7 April and six near Tristan at 37.4S 12.0W on 9 April, 27 in 4h at 36.6S 12.1W NE from Tristan on 11 April, 10 at 33.0S 11.0W on 12 April, 30+ in 4h at 28.6S 9.5W on 13 April and two at 24.1S 8.1W on 14 April.

Cory's Shearwater ***Calonectris diomedea***. SC saw one in the South Atlantic at 36.6S 12.1W NE from Tristan on 11 April, eight at 4.4S 16.0W on 23 April and eight the next day at 0.1S 17.9W. North of the equator he saw one at 7.3N 21.1W on 26 April and two at 11.6N 23.0W on 27 April. Around the Canary Islands MKB recorded 12 at 28.1 N 17.1W on 13 April in the strait between Teneriffe and La Gomera , 75 in 2h at 28.0N 17.2W on 19 April and during an early morning return crossing on 23 April found them numerous right across the strait and concentrated along an ocean front at 28.0N 16.8W. On the Plymouth to Santander ferry route DC had a few summer and early autumn records, most from the southern Bay of Biscay including four at 45.1N 4.3W and one at 44.7N 4.1W on 28 Aug'06, one at 48.5N 5.4W on 13 Sept'06, three at 43.8N 3.8W and one at 44.6N 4.1W on 14 Sept'06, one at 49.9N 4.5W on 20 June'07, two at 43.8N 3.8W and two at 44.5N 4.1W on 21 June'07, two at 43.5N 3.7W on 24 Sept'07, two at 44.0N 3.9W on 15 July'08, four at 43.7N 3.8W on 15 July'08, 10 at 45.0N 4.2W, 20 at 44.6N 4.1W and two at 44.2N 4.0W all on 18 Aug'08, three at 43.5N 3.7W on 18 Aug'08, four at 47.8N 5.3W, seven at 48.3N 5.3W and one at 48.7N 5.2W all on 19 Aug'08 and two at 43.8N 3.8W on 22 Sept'08. Variation and identification of Cory's Shearwater *Calonectris d.diomedea* and Scopoli's Shearwater *Calonectris d.borealis* is discussed and illustrated by Howell & Patterson (2008a).

Cape Verde Shearwater ***Calonectris edwardsii***. SC observed one at 12.4N 23.4W on 27 April, 300+ whilst at anchor at Fogo, Cape Verde Is. on 28 April and 49 later the same day at sea off Fogo.

Wedge-tailed Shearwater ***Puffinus pacificus***. In the Coral Sea TJ saw five at 15.5S 152.5E on 28 Jan and 10 at 19.9S 152.9E on 3 March. Near the north coast of Papua New Guinea he saw 30 at 2.8S 144.1E on 31 Jan, 10 at 2.9S 144.2E on 27 Feb and 50+ at 3.3S 144.7E on 16 March.

Great Shearwater ***Puffinus gravis***. Heading NE in the South Atlantic SC saw the first three at 52.1S 32.0W on 3 April then 56 in 3h at 49.3S 26.3W on 4 April, 16 at 46.5S 20.9W on 5 April, 93 in 4h at 43.6S 15.5W, 295 in 4h SW from Gough I. at 40.9S 10.8W on 7 April, 115 in 3h near Tristan at 37.4S 12.0W on 9 April, 60+ at 36.6S 12.1W NE from Tristan on 11 April, one at 28.6S 9.5W on 13 April and one at 19.7S 6.9W on 15 April. On the Plymouth to Santander ferry route DC had a few late summer/early autumn records with one at 49.9N 4.5W on 20 Aug'06, one at 45.5N 4.4W the next day, one at 48.1N 5.3W on 13 Sept'06, three at 43.9N 3.8W and one at 44.9N 4.2W on 14 Sept'06, one at 49.0N 5.0W on 25 Sept'07 and one at 43.7N 3.8W on 22 Sept'08.

Sooty Shearwater ***Puffinus griseus***. One was seen by SC at 56.2S 66.1W in Drake Passage on 25 Jan, 718 in 2h at 55.8S 66.3W on 3 Feb, 370 at 55.6S 66.5W near Cape Horn on 14 Feb, 36 in 2h at 56.3S 66.6W on 27 Feb, one at 49.3S 26.3W on 4 April, one at 46.5S 20.9W on 5 April and two at 43.6S 15.5W on 6 April. One was seen off South Australia on 8 Nov'09 at 38.4S 140.6E and two in the same area on 18 April (NGC). On the Plymouth to Santander ferry route DC had a few late summer early autumn records mostly from the southern Bay of Biscay including one at 48.5N 5.4W on 13 Sept'06 and the next day two at 43.8N 3.8W and three at 43.5N 3.7W, one at 50.2N 4.3W on 8 Oct'06, one at 44.1N 3.9W on 30 July'07, four

Short-tailed Shearwater *Puffinus tenuirostris*, 38.4S 140.6E off Port MacDonnell, South Australia, 25 August 2009. *Photo:* Neil Cheshire.

at 43.5N 3.7W on 24 Sept'07, two at 43.5N 3.7W and one at 43.6N 3.8W on 15 Oct'07, one at 44.6N 4.1W and two at 43.9N 3.8W on 15 Oct'07, one at 48.3N 5.3W and one at 48.7N 5.2W on 19 Aug'08, one at 46.2N 4.6W on 15 July'09 and one at 48.7N 5.2W on 16 July'09.

Short-tailed Shearwater ***Puffinus tenuirostris***. Off South Australia 300 were seen at 38.4S 140.6E on 8 Nov'09 and 200 in the same area on 31 Jan (NGC).

Manx Shearwater ***Puffinus puffinus***. DC saw small numbers in the Channel between Plymouth and Ushant and a few in the Southern Bay of Biscay. Hourly counts included four at 50.2N 4.3W on 29 April'07, four at 50.1N 4.3W and two at 47.6N 5.1W on 23 May'07, four at 49.7N 4.6W on 29 July'07, one at 45.1N 4.3W on 30 July'07, four at 50.2N 4.3W on 12 Aug'07, 13 at 50.1N 4.3W on 6 April'08, one at 44.8N 4.2W on 5 May'08, five at 49.5N 4.6W on 6 May'08, four at 50.3N 4.2W on 14 July'08, six at 50.3N 4.2W on 17 Aug'08, three at 43.8N 3.8W on 18 Aug'08, three at 48.4N 5.3W and one at 46.2N 4.6W on 15 July'09 and four at 48.7N 5.2W on 16 July'09.

Balearic Shearwater ***Puffinus mauretanicus***. DC provided occasional records from the Bay of Biscay between Ushant and Santander with one at 48.3N 5.1W on 13 Sept'06, two the next day at 43.8N 3.8W, one at 43.5N 3.7W on 14 Sept'06, one at 44.5N 4.1W on 13 Aug'07, one at 43.5N 3.7W on 15 Oct'07 and one at 43.7N 3.7W on 15 July'08. He also saw one at 50.0N 4.4W SW from Plymouth on 15 Sept'06.

Fluttering Shearwater ***Puffinus gavia***. Twenty were recorded between shore and shelf edge at 38.4S 140.6E off South Australia on 8 Nov'09 and five in the same area and two at 38.4S 140.6E on 31 Jan (NGC).

Hutton's Shearwater ***Puffinus huttoni*** In South Australian waters single birds were seen well, with one inshore at 38.1S 140.6E and the other at 38.4S 140.4E at the shelf edge on 18 April (NGC).

Subantarctic Little Shearwater ***Puffinus elegans***. In the South Atlantic SC recorded four at 43.6S 15.5W on 6 April and 88 in 4h SW from Gough I. at 40.9S 10.8W on 7 April.

Audubon's Shearwater ***Puffinus lherminieri***. SC reported sightings of the Cape Verde sub-species *P.l.boydi* with one at 12.4N 23.4W on 27 April, three at Fogo anchorage, Cape Verde, and three at sea off Fogo on 28 April.

DIVING PETRELS ***Pelecanoidinae***

Magellanic Diving Petrel ***Pelecanoides magellani***. SC reported one in northern Drake Passage at 57.2S 64.2W on 3 Feb, one at 60.2S 61.5W and one at 59.4S 62.2W on 13 Feb.

STORM-PETRELS ***Hydrobatidae***

Wilson's Storm-petrel ***Oceanites oceanicus***. SC counted 37 in 1h at 56.2S 66.1W in northern Drake Passage on 25 Jan and saw singles at 57.7S 65.6W the same day, at 60.1S 62.4W on 26 Jan and at 62.5S 59.5W on 27 Jan, seven at 60.8S 63.2W and four at 59.9S 63.7W on 2 Feb, two at 57.2S 55.8W and one at 55.8S 66.3W on 3 Feb, two at 56.5S 65.8W on 5 Feb, 18 in 4h at 61.0S 65.4W on 6 Feb, nine close to the Antarctic Peninsula at 67.2S 67.6W on 8 Feb.

Wilson's Storm-petrel *Oceanites oceanicus*, off Port MacDonnell, South Australia. 8 November 2009. *Photo:* Neil Cheshire.

six at 59.4S 62.2W on 13 Feb, two at 56.8S 64.8W the next day, 15 in 2h at 64.5S 64.7W on 25 Feb, 19 at 60.9S 60.8W on 27 March, four at 46.5S 20.9W on 5 April and two at 43.6S 15.5W the next day. In South Australian waters 20 were seen at 38.4S 140.6E on 8 Nov'09, and 200 in same area on 18 April indicating an influx of birds from Antarctic waters in the southern autumn (NGC). DC saw one at 48.1N 5.3W off Ushant on 13 Sept'06.

Grey-backed Storm-petrel ***Garrodia nereis***. A single bird was recorded at 38.4S 140.6E off South Australia on 18 April (NGC). SC saw one at 54.0S 37.0W off South Georgia on 1 April, one at 49.3S 26.3W on 4 April, one at 46.5S 20.9W on 5 April and two at 43.6S 15.5W on 6 April.

White-faced Storm-petrel ***Pelagodroma marina***. Thirty were seen at 38.4S 140.6E off South Australia on 31 Jan and four in the same position on 18 April (NGC). In the Atlantic SC saw one at 13.8S 8.1W on 19 April and one at 11.6N 23.0W on 27 April.

White-bellied Storm-petrel ***Fregetta grallaria***. In the SW Atlantic SC reported 100+ in 4h at 49.3S 26.3E on 4 April, 75+ in 4h at 46.5S 20.9W on 5 April, 80+ the next day at 43.6S 15.5W , six SW from Gough I. at 40.9S 10.8W on 7 April and 38 in 4h at 36.6S 12.1W NE from Tristan on 11 April.

Black-bellied Storm-petrel ***Fregetta tropica***. Single birds were recorded by SC at 59.6S 63.1W on 26 Jan and at 62.5S 59.5W the next day near the South Shetlands, eight at 60.8S 63.2W and 15 at 59.9S 63.7W on 2 Feb, a single at 56.5S 65.7W on 5 Feb, one at 60.2S 65.5W and 26 in 4h at 61.0S 65.4W on 6 Feb, 13 at 60.2S 61.5W and 77 in 5h at 59.4S 62.2W on 13 Feb, one at 56.8S 64.8W on 14 Feb, 24 in 4h at 60.6S 63.3W and three at 61.7S 62.6W on 17 Feb, 17 in 4h at 60.9S 60.8W on 25 March, 24 in 1h at 61.1S 55.7W near Elephant Island and 56 in 2h at 61.1S 54.2E on 27 March, 16 off Cooper I. South Georgia on 30 March, 43 in 1h at 54.0S 37.0W on 1 April, 18 in 3h at 52.1S 32.0W on 3 April and 80+ in 4h at 49.3S 26.2W on 4 April.

White-throated Storm-petrel ***Nesofregetta fuliginosa***. Unconfirmed reports from TJ of one at 2.8S 144.1E off northern PNG on 31 Jan and two at 9.5S 152.5E in the Solomon Sea on 2 March. The species has not been previously reported from PNG waters.

European Storm-petrel ***Hydrobates pelagicus***. SC saw one near the equator at 0.1S 17.9W on 24 April and one at 7.3N 21.1W on 26 April. DC provided a few records between Plymouth and northern Bay of Biscay including one at 49.2N 4.5W on 16 July'06, four at 50.3N 4.2W on 20 Aug'06, six at 49.6N 4.6W on 22 Aug'06, six at 48.1N 5.3W on 13 Sept'06, 16 in 1h at 47.7N 5.1W on 14 July'08.

Madeiran Storm-petrel. ***Oceanodroma castro***. In the equatorial Atlantic SC saw two at 5.4S 15.5W and three at 4.4S 16.0W on 23 April and one at 0.1S 17.9W on 24 April.

Leach's Storm-petrel ***Oceanodroma leucorhoa***. SC saw the species in the equatorial Atlantic with five at 5.4S 15.5W and three at 4.4S 16.0W on 23 April, one at 0.1S 17.9W on 24 April, 22 in 4h at 3.2N 19.5W and 36 in 4h at 4.1N 19.7W on 25 April, seven at 7.3N 21.1W and 13 at 8.3N 21.6W on 26 April, 10 in 3h at 11.6N 23.0W and three at 12.4N 23.4W on 27

April, six in 2h at 26.3N 16.4W off Gran Canaria on 17 Dec'09, two at 25.3N 16.8W on 18 Dec'09, two on board at 26.9N 15.6W on 19 Dec'09, and three on board at 27.9N 15.2W close to Gran Canaria on 20 Dec'09. DC saw 25 in 1h in the Channel at 49.7N 4.6W on 10 Oct'06. Steve Howell *et al* (2009) have reviewed the various races of *O.leucorhoa* seen off California and discuss their sight identification.

Swinhoe's Storm-petrel ***Oceanodroma monorhis***. SC reported that several observers on his expedition ship had close views of one at 8.3N 21.6W off shore from West Africa on 26 April and another the next day at 12.4N 23.4W. Flood (2009) summarises records, provides many illustrations and discusses identification of 'all dark' *Oceanodroma* storm-petrels in the North Atlantic area.

TROPICBIRDS ***Phaethontidae***

Red-billed Tropic-bird ***Phaethon aethereus***. In the South Atlantic SC had one south of the normal range at 28.6S 9.5W on 13 April.

White-tailed Tropicbird ***Phaethon lepturus***. SC saw one at 5.4S 15.5W north of Ascension I. on 23 April. TJ observed one at 8.6N 131.9E east of the Phillipines on 24 Feb, and another the next day at 4.3N 135.9E. He also had a remarkable sighting of 50+ feeding over a school of Tuna sp. chasing small fish at 3.6N 136.6E in the western Caroline Islands.

Australasian Gannet *Morus serrator*, Encounter Bay, South Australia, 25 August 2009. *Photo:* Neil Cheshire.

PELICANS *Pelecanidae*

Australian Pelican ***Pelecanus conspicillatus***. TJ counted 20+ in Gladstone harbour on 26 Jan.

GANNETS and BOOBIES *Sulidae*

Northern Gannet ***Morus bassanus***. DC had many records in the area Plymouth to the northern Bay of Biscay. Larger hourly counts include 239 at 49.3N 4.5W on 16 July'06, 301 at 48.7N 5.2W on 18 July'06, 330 at 49.6N 4.7W on 13 Sept'06, 186 at 49.8N 4.5W on 8 Oct'06, 433 at 49.7N 4.6W on 10 Oct'06, 67 at 49.2N 5.0W on 20 June'07, 269 at 50.2N 4.3W on 12 Aug'07, 115 at 50.3N 4.2W on 14 Oct'07, 464 at 49.5N 4.7W on 8 April'08, 100 at 49.0N 5.0W on 3 June'08, 309 at 50.3N 4.2W on 21 Sept'08, 117 at 50.1N 4.3W on 23 Sept'08, 190 at 49.8N 4.5W on 19 Oct'08, 272 at 49.7N 4.6W on 21 Oct'08 and 200 at 48.5N 5.4W on 27 March'09. In the southern Bay of Biscay his hourly counts include 18 at 43.8N 3.8W on 14 Sept'06, 43 at 43.8N 3.9W on 29 March'07, 34 at 43.5N 3.8W on 29 March'07, 20 at 43.5N 3.7W on 5 May'08, 14 at 43.6N 3.9W on 26 March'09 and 35 at 43.5N 3.7W on 26 March'09.

Masked Booby ***Sula dactylatra***. SC reported one well south of the normal South Atlantic range at 33.0S 11.0W on 12 April. In the western Pacific area TJ saw two at 7.2N 133.1E on 3 Feb, one at 14.8N 126.0E on 5 Feb, three at 14.6S 152.4E on 2 March, eight the next day at 19.9S 152.9E, one at 16.6S 152.6E , two in Jomard Entrance, PNG on 14 March and three at 3.3S 144.7E on 16 March.

Brown Booby ***Sula leucogaster***. In the Western Pacific/Coral Sea area TJ observed five at 20.8S 153.1E on 27 Jan, five at 6.3S 148.3E on 30 Jan, two at 18.6N 119.3E on 21 Feb, three at 16.9N 123.9E on 22 Feb, one at 12.3N 127.6E on 23 Feb, one at 6.1S 147.9E on 28 Feb, six at 9.6S 152.5E on 2 March, one on 5 March and one on 8 March at Gladstone Roads, five at 21.6S 153.1E on 12 March, 10 at 3.3S 144.7E on 16 March and five at 3.6N 136.6E on 18 March.

Red-footed Booby ***Sula sula***. SC saw two immatures at 12.4N 23.4W south of the Cape Verdes on 27 April , two imm while at anchor at Fogo,Cape Verde Is. on 28 April, and another imm close to the coast of Fogo later the same day. This species is shown as rare/accidental on the Cape Verde checklist. In Papua New Guinea waters TJ saw one at 6.1S 147.9E on 28 Feb, five in Jomard Entrance on 14 March and further south in the Coral Sea two at 14.6S 152.4E on 2 March and 10 at 19.9S 153.0E the following day.

CORMORANTS and SHAGS *Phalacrocoracidae*

Great Cormorant ***Phalacrocorax carbo***. TJ saw 20+ in Gladstone harbour on 26 Jan.

Pied Cormorant ***Phalacrocorax varius***. TJ recorded 30+ in Gladstone harbour on 26 Jan.

Imperial Shag ***Leucocarbo atriceps***. SC recorded six in northern Drake Passage at 55.8S 66.3W on 3 Feb.

Antarctic Shag ***Leucocarbo bransfieldensis***. SC saw one at 61.1S 55.8W near Elephant Island where it breeds on 27 March.

FRIGATEBIRDS ***Fregatidae***

Lesser Frigatebird ***Fregata ariel***. In the Solomon Sea TJ observed four at 9.5S 152.5E on 1 March, one in the Coral Sea at 19.9S 152.9E on 3 March, two in Jomard Entrance, PNG on 14 March and two the next day at 6.8S 149.0E also in PNG waters.

PHALAROPES ***Phalaropodidae***

Grey(Red) Phalarope ***Phalaropus fulicarius***. DC observed four in the southern Bay of Biscay at 44.4N 4.0W on 18 Aug'08.

SKUAS and JAEGERS ***Stercorariini***

Great Skua ***Catharacta skua***. DC saw 40 in 1h off Ushant at 48.1N 5.3W on 13 Sept'06.

Southern Skua ***Catharacta antarctica.*** One was seen by SC at 61.1S 55.8W near Elephant Island on 27 March, two at 46.5S 20.9W on 5 April, four at 43.6S 15.5W on 6 April, one SW from Gough I. at 40.9S 10.8W on 7 April and one at 24.1S 8.1W on 14 April.

Chilean Skua ***Catharacta chilensis***. One was seen by SC at 55.6S 66.5W near Cape Horn on 14 Feb.

McCormick's Skua ***Catharacta mccormicki*** . SC saw one at 62.5S 59.5W near the South Shetlands on 27 Jan, two at 67.2S 67.6W close to the Antarctic Peninsula on 8 Feb, nine at 64.5S 64.7W on 25 Feb.

Pomarine Skua ***Stercorarius pomarinus***. DC saw one in the southern Bay of Biscay at 43.9N 3.8W on 14 Sept'06.

Arctic Skua ***Stercorarius parasiticus***. One was seen at 38.4S 140.6E off South Australia on 31 Jan and another at 38.2S 140.6E on 18 April (NGC). In the equatorial Atlantic SC saw two at 4.4S 16.0W on 23 April, one at 3.2N 19.5W on 25 April, three at 11.6N 23.0W and one at 12.4N 23.4W on 27 April.

Long-tailed Skua ***Stercorarius longicaudus***. SC reported four in the South Atlantic at 43.6S 15.5W on 6 April, one at 4.4S 16.0W on 23 April. Further north he saw one at 7.3N 21.1W on 26 April, one at 12.4N 23.4W on 27 April. On the Plymouth to Santander ferry route DC saw one in southern Bay of Biscay at 44.6N 4.1W on 14 Sept'06 and seven nearby at 45.0N 4.2W on 15 Oct'07.

White-faced Storm-petrel *Pelagodroma marina*, 38.4S 140.5E, off Port MacDonnell, South Australia. *Photo:* Neil Cheshire.

Gull-billed Tern (Adult) *Gelochelidon nilotica*, Darwin Australia, 23 July 2009. *Photo:* Neil Cheshire.

Imperial/King Shag *Phalacrocorax atriceps albiventer* Sea Lion Island. *Photo:* John O'Connell-Davidson.

GULLS *Larinae*

Black-tailed Gull ***Larus crassirostris*****.** In the Yellow Sea TJ saw 30 at 33.5N 124.5E on 24 March.

Lesser Black-backed Gull ***Larus fuscus*****.** SC observed up to 200/day in Las Palmas harbour from 1-16 Dec'09.

Yellow-legged Gull ***Larus cachinnans*****.** SC saw one imm at 26.3N 16.4W south of Gran Canaria on 17 Dec'09.

Kelp Gull ***Larus dominicanus*****.** SC recorded 40+ at 67.2S 67.6W near the Antarctic Peninsula on 8 Feb.

Mediterranean Gull ***Larus melanocephalus***. In Las Palmas harbour during Dec'09, SC saw 2 first winter birds on the 2nd, one first winter and one adult on the 5th, one first winter on the 9th and three first winter birds on the 16th. DC recorded one in the southern Bay of Biscay at 44.0N 3.9W on 22 Sept'08 and four nearby at 43.9N 3.9W on 26 March'09.

Silver Gull ***Larus novaehollandiae***. TJ saw three adults and three imm in Gladstone harbour on 26 Jan.

Black-headed Gull ***Larus ridibundus***. SC recorded up to 50/day in Las Palmas harbour from 1-16 Dec'09. In the South China Sea TJ observed three at 21.1N 118.2E on 7 Feb, six at 19.6N 112.8E on 9 Feb, and two at 18.2N 108.2E on 10 Feb. During 10 days at anchor at Cam Pha, Viet Nam, 21.0N 107.3E from 10-19 Feb, TJ saw two or three per day.

Sabine's Gull ***Larus sabini*****.** . In the southern Bay of Biscay DC observed six at 44.7N 4.1 W and one at 44.3N 4.0W on 28 Aug'06.

TERNS *Sterninae*

Black Tern ***Childonias niger***. DC observed two in the southern bay of Biscay at 44.5N 4.1W on 30 July'07 and one at 44.3N 4.0W on 21 Aug'06.

South American Tern ***Stern hirundinacea***. SC recorded on at 55.6S 66.5W near Cape Horn on 14 Feb.

Arctic Tern ***Sterna paradisaea***. In the South Atlantic SC saw six at 24.1S 8.1W on the 14 April, five at the next day at 19.7S 6.9W and near the equator 22 in 4h at 0.1S 17.9W on 24 April, 28 in 4h at 3.2N 19.5W on 25 April, 13 in 4h at 7.3N 21.1W and 8.3N 21.6W on 26 April, 10 at 11.6N 23.0W and eight at 12.N 23.4W on 27 April, five near Fogo Cape Verde Is and one whilst at anchor there on 28 April.

Antarctic Tern ***Sterna vittata***. SC counted 42 in 4h near the Antarctic Peninsula at 67.2S 67.6W on 8 Feb, three at 61.1S 54.2W on 27 March, one at 54.0S 37.0W near South Georgia on 1 April, six at 49.3S 26.3W in the South Atlantic on 4 April. The first five sightings of

Antarctic Terns in Australia, on Kangaroo Island, South Australia during Sept 2006 and their possible race and origin are described by Baxter (2010).

Sooty Tern *Sterna fuscata*. In the equatorial Atlantic SC observed 20 at 10.6S 11.7W on 20 April, 730+ including a flock of 600 at 4.4S 16.0W on 23 April and one at 0.1S 17.9W the next day.

Great Crested Tern *Sterna bergii*. Recorded off South Australia at 38.4S 140.6E, 21 nm offshore with 40 on 8 Nov'09, eight on 31 Jan and 10 on 18 April. Thirty of those seen on 8 Nov'09 were in a flock following a pod of Long-finned Pilot Whales *Globicephala melas* (NGC). TJ saw three in Gladstone harbour on 26 Jan.

Brown Noddy *Anous minutus*. SC recorded one at 10.6S 11.7W on 20 April and 12 at 4.4S 16.0W on 23 April. TJ saw one north of New Guinea on the equator at 140.0E on 1 Feb and 1,000 in two flocks feeding over fish shoal at 9.5S 152.5E in the southern Solomon Sea on 2 March.

References

Baxter, C. (2010). *Antarctic Terns, Sterna vittata, on Kangaroo Island, South Australia with an analysis of their possible race and origin.* South Australian Ornithologist 35(8): 209-222.

Flood, R.L. (2009). *'All dark' Oceanodroma storm-petrels in the Atlantic and neighbouring seas.* British Birds 102: 365-385.

Howell, S.N.G. and Patterson,B. (2008a). *Variation in Cory's and Scopoli's Shearwaters.* Alula 14: 12-21.

Howell, S.N.G. and Patterson,B. (2008b). *Variation in the Black-capped Petrel – one species or more?* Alula 14: 70-83.

Howell, S.N.G., McGrath,T., Hunefeld,W.T. and Feenstra, J.S. (2009). *Occurrence and identification of the Leach's Storm-Petrel (Oceanodroma leucorhoa) complex off southern California.* North American Birds 63 (4):540-549.

Shirihai, H. and Bretagnolle, V. (2010). *First observations at sea of Vanuatu Petrel Pterodroma (cervicalis) occulta.* Bull.B.O.C. 130(2): 132-140.

Totterman, S. (2009). *Vanuatu Petrel (Pterodroma occulta) discovered breeding on Vanua Lava, Banks Islands, Vanuatu.* Notornis 56: 57-62

Neil Cheshire
7 Hodge Avenue,
Encounter Bay,
South Australia 5211,
Australia.

A BIRD WATCHING TRIP TO THE FALKLAND ISLANDS AND A DREAM COME TRUE

Rockhopper Penguin *Eudyptes chrysocome chrysocome* Saunders Island.
Photo: John O'Connell-Davidson.

Having spent nearly 35 years in the Royal Navy I had never been to the Falkland Islands and being an avid birdwatcher, it was one trip I always wanted to undertake. I served mostly in nuclear submarines as an engineer although one of my appointments was the trials officer on conventional submarines where I spent many hours on the fin during the passage in UK waters, not only bird watching but also trying to instil in young executive officers the different species you can view from such an excellent vantage point. Since I left the RN I have been working as a civil servant in Devonport Naval Base and a colleague who went to the FI as part of the 25th Remembrance said why did I not try and go there on an 'Indulgence flight' as the wildlife there was fantastic.

The regulations which govern entitlement to indulgence flights to the FI can be found in 'JSP 800, Vol 2, Part 2, Chapter 8'. When an application is made you give the dates between when you wish to fly and return. As with all indulgence flights you are only given 48 hours notice to be at the airport and even then if all the spaces are taken you will not fly until a later date. Ensuring that you are ready to go at short notice is essential. However, in my case I was able to fly to and from the Falkland Islands on both the dates I had requested.

The flight from RAF Brize Norton in Oxfordshire to the Falklands takes 17 hours flying time and is via Ascension Island where normally the plane is on the ground for 2 to 3 hours while it is refuelled. However, due to very high winds in the Falklands that often affect the islands, we were delayed for 10 hours in Ascension. This gave me the opportunity to see some of the island bird life and the beach where there was evidence from the previous night of Green Turtles coming ashore to lay their eggs in the soft golden sand. I arrived in the FI at Mount Pleasant Airport at 3.30am during a lull in the high winds and was then transported to my B&B accommodation in Stanley for a few hours sleep before my first full day on the Islands. Before I left the UK I had obtained a copy of 'A Visitor's Guide to the Falklands Islands' by Debbie Summers which gives detailed descriptions of the birding sites on the islands, how to get there and the accommodation available. This publication helped me decide which islands I wanted to visit and for how long. The arrangements for flights, accommodation, and transport were all done for me by 'International Tours & Travel Ltd' based in Stanley who were able to arrange everything for me at short notice.

The itinerary that was arranged for me was a Falkland Islands Government Air Service (FIGAS) flight to Pebble Island for 4 nights, flight to Sea Lion Island for 3 nights, flight to Saunders Island for 2 nights, flight to Carcass Island for 2 nights and a flight back to Stanley. The Falkland Islands form an archipelago which lies 350 kms to the east of South America. It consists of two large islands, East & West Falkland and over 780 small islands and inlets. Before I took my first flight I had two days to explore Stanley where Southern Giant Petrels fly around the harbour, Upland Geese which seem to be on all the improved grass areas in the town and walked to a number of birding sites where I saw my first penguins with a total of 27 species observed in two days.

Black-browed Albatross *Thalassarche melanophrys* Saunders Island.
Photo: John O'Connell-Davidson.

My first flight of about 45 minutes was to Pebble Island whose name comes from the attractive, shiny and rounded pebbles found on the beaches. Their origin is unknown. Pebble is the third largest offshore island and is about 10,700 ha (27,000 acres) and is about 30km from east to west but only 7km at its widest point with the settlement in the middle of it. My first full day included a tour to the birding site in the west of the island where I visited Gentoo penguins, Rockhopper penguins, Imperial/King shag and Rock shags colonies as well as a Southern Giant Petrel breeding areas. The next day I was taken to the east side of the island and spent the day walking slowly back towards the settlement. The east side of the island also has a number of penguin and Imperial/King shag colonies which like all the others in the Falklands seems to have at least a pair of Falkland Skuas on the edge looking for the opportunity to steal eggs or chicks from the nesting birds. The eastern half of the island is dotted with large shallow lakes where a large number of waterfowl - Blacked-necked Swans, Silver Teal, Chiloë Wigeon and Speckled Teal - breed. My original itinerary was to fly out next day but due to very high winds all FIGAS flights were suspended for the day so I stayed within walking distance of the settlement.

Striated Caracara *Phalcoboenus australis* Sea Lion Island.
Photo: John O'Connell-Davidson.

From Pebble Island I flew south west for over an hour to Sea Lion Island for 3 nights and stayed in the very comfortable Sea Lion Lodge which is claimed to be the world's remotest southerly lodge hotel. The Island is 8 km long and less than 2 km wide at its widest point which makes it quite easy for exploring on your own. As the island is rat free, Cobb's Wren, Grass Wren and Tussacbird are very common and all are very easy to see. The Cobb's Wren

Black-browed Albatross *Thalassarche melanophrys* Saunders Island.
Photo: John O'Connell-Davidson.

breeds in the areas close to the beach and are often observed going between the boulders and rocks and if you keep still they will even sit on your boots. In the grass areas, Magellanic Oystercatcher, Blackish Oystercatcher, Two-banded Plover, Rufous-chested Dotterel, Magellanic Snipe and White-rumped Sandpiper are all common. The island is also home to one of the rarest birds of prey in the world - Striated Caracara or 'johnny rook' with over 20 observed each day I was there. The name for the island comes from the large colony of Elephant Seal which inhabit the beach and there can be over 2,000 individuals at the height of the breeding season. The males, which grow up to 4.5 m and weigh up to 3.5 tonnes, are often seen fighting and defending their harems with young bulls at the edge looking for an opportunity to mate while the alpha male is other wise engaged. In early November the Island also has a pod of Orca (killer whales) circling close to shore looking for the seal pups, and this was filmed for a recent wildlife programme. In 2009 the Orcas arrived 3 days after I had left the island.

The flight from Sea Lion to Saunders Island for my next stop was via Stanley. Saunders Island, which is still an active sheep farm, is situated about 5 km off the North West coast of West Falkland and is over 12,000 ha (30,000 acres). I spent 2 nights at the Rookery which is a small 2 bedroom self-catering cottage, with all mod cons and is over 10 kms from the small settlement. The main attraction on the Island is the Black-browed Albatross colony which starts just outside the door of the Rookery and runs for about 5 km on the North coast. As you walk up the coast the albatross hug the cliffs as they seem to fly effortlessly, just

metres away, to and fro from their round mud pile nests. On the north coast there are also 4 large mixed colonies of Rockhopper Penguins and Imperial/King Shags who seem to provide symbiotic protection from the ever present Falkland Skuas and Striated Caracaras. Near the penguin colonies there is a fresh water 'shower' which runs down a gully in the cliffs and is used by the Rockhoppers to preen their feathers. This makes it a great place to observe the penguins close by and I was able to take some fantastic photographs.

From Saunders Island it is less than a 10 minute flight to Carcass Island where I stayed for two nights in the Manager's house. The island is the largest of the West Point Island Group and lies north west of West Falkland. It is 10 km in length, has a maximum width of 2.5 km and is about 1,900 ha (4,700 acres) with the main areas of birding interest an easy walk from the house. With the absence of cats and rats the well established hedges and trees make an attractive home to many small birds such as the Cobb's wren, Black-chinned Siskins and Falklands thrush. The rolling hills, low cliffs and wide sandy beaches are good places to view the bird life that either breed or feed on and around the Island. These include the Gentoo and Magellanic Penguin, Yellow-billed Pintail and Flightless Steamer duck, Magellanic Oystercatcher, Rock Shag, Variable Hawk, Crested Caracara and Striated Caracara with up to 10 observed in the vicinity of the Manager's House.

After flying back to Stanley, the one site I wished to visit on East Falkland was Volunteer Point which is one of the most popular and important tourist destinations in the Falklands. Volunteer Point is a full day's excursion from Stanley through one of the wettest, boggiest parts on East Falkland and one of the great wildlife experiences. The trip takes about 2 1/2 hours to get there, with the last hour being off-road cross-country track. An experienced guide and Land Rover driver are an absolute must to avoid getting bogged down. There are colonies of King and Gentoos Penguins at Volunteer Point, as well as Magellanic penguins in their burrows. Heavy frequent snow showers curtailed some of the birding but it was the Falklands in late spring where vagaries of the weather must be endured for such fantastic birding.

In 2006/07, Falklands Conservation counted approximately 750 adult King Penguins and 550 chicks, making Volunteer Point the largest, most accessible colony of these birds in the world outside of South Georgia. The beach itself has beautiful white sand, is approximately 2 km long, and is where the penguins can be seen entering and leaving the ocean. Although many other birds breed in the area it is the King Penguins which visitors come to see, with a fully grown male almost 3 feet tall. The colony is resident all year round due to the gestation period of their chicks. In spring when I was there most of the chicks were covered in thick, brown, downy feathers. This makes an adolescent chick appear larger than an adult bird before they moult to reveal their sophisticated black and white coats with distinctive amber neck markings. Like most other penguin colonies, Volunteer Point is a noisy, quarrelsome place with much trumpeting and posturing which makes it a fantastic place for photographs.

Conservation Issues

The difference in bird populations on islands where feral cats, rats, mice and rabbits have been eradicated was marked and further removal of these alien species would undoubtedly benefit endemic breeding birds. The continuing removal and monitoring of these eradications must be applauded. The number of visitors to breeding areas could affect the birds, and careful

control especially to cruise ship visitors whose numbers are set to increase with larger vessels being planned, will need to be implemented. Visitors from these ships tend to congregate in large numbers near penguin colonies and they seem oblivious to the needs of the penguins to access the colony and other birds which will be nesting in the vicinity.

Thanks:

Without doubt this was a trip of a lifetime and I saw a total of 50 species of which 47 were lifers. It was a fantastic trip and if anyone does get the chance to go it is the only place I have ever visited where you can sit by the birds as you watch them at close quarters for they take almost no notice of you. I would like to thank Sally Ellis of International Tours & Travel for arranging my flights and accommodation on the Islands, to Allan White & Jacqui on Pebble Island, Jenny Luxton at Sea Lion Lodge, Susan Pole-Evans on Saunders, Rob & Lorraine McGill on Carcass and to Celia Stewart at Bennett House in Stanley.

John O'Connell-Davidson, Plymouth. UK
john.ocd@blueyonder.co.uk

References

Summers D. *A Visitor's Guide To the Falkland Islands* Falklands Conservation.
Jaramillo A, Burke P & Beadle D *Birds of Chile including the Antarctic Peninsula, the Falkland Islands and South Georgia.*

Gentoo Penguin *Pygoscelis papua papua* Pebble Island.
Photo: John O'Connell-Davidson.

Falkland Island 27 Oct - 13 Nov 2009

Stanley 27-28/10, Pebble I 29/10-1/11, Sea Lion I 2-4/11
Saunders I 5-6/11, Carcass 8-9/11, Stanley 9-12/11

Bird Species		26	27	28	29	30	31	1	2	3	4	5	6	7	8	10
King Penguin	*Aptenodytes patagonicus B*								1							1000
Gentoo Penguin	*Pygoscelis papua papua B*					√√			√√	√√	√√	√√	√√	√√	√√	√√
Rockhopper Penguin	*Eudyptes chrysocome chrysocome B*					√√	√√		√√	√√	√√	√√	√√			
Macaroni Penguin	*Eudyptes chrysolophus B*					3				2	2					
Magellanic Penguin	*Spheniscus magellanicus B*		1	3		√	√√		√√	√√	√√	√√	√√	√√	√√	√
White-tufted Grebe	*Rollandia rolland rolland B*				5		16						√			√
Silvery Grebe	*Podiceps occipitalis B*				2		2		6	3						
Black-browed Albatross	*Thalassarche melanophrys B*				√	√	√		√	√	√	√	√	√√	√	
Southern Giant Petrel	*Macronectes giganteus B*		√	√	√	√√	√		√√	√√	√√	√	√	√	√	√
Rock Shag	*Phalacrocorax magellanicus B*		√	√			√		√√	√	√	√	√			
Imperial/King Shag	*Phalacrocorax atriceps albiventer B*		√	√		√	√√		√√	√	√	√	√			
Black-crowned Night-heron	*Nycticorax nycticorax falklandicus B*								8	6	√				1	
Black-necked Swan	*Cygnus melancoryphus B*				2		35						2			
Upland Goose	*Chloephaga picta leucoptera B*		√	√	√	√√	√√	√	√√	√√	√√	√	√	√	√	√
Kelp Goose	*Chloephaga hybrida malvinarum B*		√	√	√				√	√	√	√	√	√	√	
Ruddy-headed Goose	*Chloephaga rubidiceps B*				√	√	√		√	√	√	√	√	√	√	
Flying Steamer Duck	*Tachyeres patachonicus B*						6									
Falkland Steamer Duck	*Tachyeres brachypterus B*		√	√	√		√		√	√	√	√	√	√	√	√
Chiloë Wigeon	*Anas sibilatrix B*						10	1	4	2	2		√	√	√	√
Speckled Teal	*Anas flavirostris B*		√	√	√		√		√	√	√		√	√	√	√
Crested Duck	*Lophonetta specularioides B*		√	√	√		√		√	√	√			√	√	√
Yellow-billed Pintail	*Anas georgica spinicauda B*						6									
Silver Teal	*Anas versicolor fretensis B*			√			8		2							√
Turkey Vulture	*Cathartes aura jota B*		√	√	√	√	√		√	√	√	√	√	√	√	√
Variable Hawk	*Buteo polyosoma B*			√	2			2						√	√	√
Striated Caracara	*Phalcoboenus australis B*						11		√	√	√			√	√	
Crested Caracara	*Caracara plancus B*								2		1			4	4	2
Peregrine Falcon	*Falco peregrinus cassini B*			2			1									
Magellanic Oystercatcher	*Haematopus leucopodus B*		√	√	√	√	√		√√	√√	√		√√	√√	√√	√√
Blackish Oystercatcher	*Haematopus ater B*		√	√	√		6		√	√	√		√	√		
Two-banded Plover	*Charadrius falklandicus B*					√	√		√	√	√	√	√	√	√	√
Rufous-chested Dotterel	*Charadrius modestus B*		√		√	√	√		√	√	√	√	√	√	√	√
Magellanic Snipe	*Gallinago paraguaiae magellanica B*						1	1	4	√	√	√	√	√	√	
White-rumped Sandpiper	*Calidris fuscicollis W*						100			√	√			√	√	√
Pale-faced Sheathbill	*Chionis albus W*		√	√		6	20		√	√	√	√	√	√	√	
Falkland Skua	*Catharacta antarctica B*					20	50		√	√	√	√	√	√	√	√
Dolphin Gull	*Leucophaeus scoresbii B*		√	√	√		√		√	√	√	√	√	√	√	
Kelp Gull	*Larus dominicanus B*		√	√	√	√	√		√	√	√	√	√	√	√	√
Brown-hooded Gull	*Larus maculipennis B*		√	√			2									√
South American Tern	*Sterna hirundinacea B*		√	√	√	√	√	√	√	√	√			√	√	√

H = Heard Br = Briefly pr = pair
M = Male F = Female

Numbers 1 to 10 = number or estimated seen during the day
Tick (√) = 10 or more birds seen during the day

Falkland Island 27 Oct - 13 Nov 2009

Stanley 27-28/10, Pebble Is 29/10-1/11, Sea Lion Is 2-4/11
Saunders Is 5-6/11, Carcus 8-9/11, Stanley 9-12/11

Bird Species		26	27	28	29	30	31	1	2	3	4	5	6	7	8	10
Tussacbird	*Cinclodes antarcticus antarcticus B*								√	√	√			√	√	
Dark-faced Ground-tyrant	*Muscisaxicola macloviana macloviana B*		√	√	√	3	√		√	√	√	√	√	√	√	√
Falkland Pipit	*Anthus correndera grayi B*			1		√	√		√	√	√			√	√	√
Falkland Grass Wren	*Cistothorus platensis falklandicus B*					8			√	√	√			√	√	
Cobb's Wren	*Troglodytes cobbi B*								√	√	√			√	√	
Falkland Thrush	*Turdus falcklandii falcklandii B*		√	√	√	√	√		1	√	√	√	√	√	√	√
Black-throated Finch	*Melanodera melanodera B*		6	4		1	6		√	√	√			√	√	√
Long-tailed Meadowlark	*Sturnella loyca falklandica B*		√	√	√	√	√					√	√	√	√	√
Black-chinned Siskin	*Carduelis barbata B*		√	√	√	√	√							√	√	√
House Sparrow	*Passer domesticus B*		√	√	√		1									

Ascension Island Bird List

Ascension frigatebird	*Fregata aquila*	1
Common mynah	*Acridotheres tristis*	√
Common waxbill	*Estrilida astrild*	√
Yellow canary	*Serinus flaviventri*	√

H = Heard Br = Briefly pr = pair
M = Male F = Female

Numbers 1 to 10 = number or estimated seen during the day
Tick (√) = 10 or more birds seen during the day

SEABIRDS OF HONG KONG

For the past four years from 2006 to 2009, I have been studying bird migration on the island of Po Toi at the south east extremity of Hong Kong. Whilst this has mainly been focused on land birds, Po Toi is also ideally suited to watch seabirds migrating through Hong Kong waters and I have sea-watched from a suitable vantage point for two hours in the early morning and late evening of most days I spent on the island. This paper draws on the results of the study, as well as including records from the historical files of the Hong Kong Bird Watching Society ('HKBWS' for short). For the years up to 1998, these records are assembled into a single volume 'The Avifauna of Hong Kong' with subsequent years recorded in the Annual Reports of the Society and the Society website (see References).

Background

Hong Kong (22.3 deg N, 114.2 deg E) is surrounded by sea with the Pearl River Delta to the west and the South China Sea to the south and east, an archipelago of 236 islands and the world famous harbour. However, from an ornithological point of view, it is best known for the WWF Wildfowl and Wader reserve of Mai Po Marshes in the north, and increasingly as a good location for migrant land birds, located as it is on the boundary between the Palearetic and Oriental regions and on a migration route around the coast of South China. Many bird-watching visitors to Hong Kong comment on how few seabirds such as gulls can be seen around the harbour and this is certainly true for the casual visitor.

However, since 1990 it has been increasingly recognized that seabirds visit Hong Kong waters on a regular basis and, although they will never replace land and water birds as major ornithological attractions, for the connoisseur of seabird watching it is now accepted that at certain times of the year seabirds are regular in Hong Kong waters and worth searching out. Of the 42 additions to the Hong Kong list over the ten years 1999-2008, 10 or almost 25% have been seabirds which is a remarkable statistic compared to the history prior to 1999. Pelagic daytrips are now regularly organized by HKBWS in spring to survey the waters off the south east coast of Hong Kong.

Seabirds in the northern South China Sea

It has to be accepted that the northern part of the South China Sea is relatively poor for seabirds. With the exception of a few breeding terns, there are no major seabird colonies: the closest are on islands off the coast of East China and northern Taiwan several hundred miles to the north east of Hong Kong.

One major reason for this is the enclosed nature of the sea, effectively cut off from the Pacific Ocean by the Philippine and Indonesian archipelagos. Apart from the physical barrier this represents for seabirds, it also means that for most of the year, the South China Sea is warm, without a mix of warm and cold currents to cause up-welling of nutrients and create food for seabirds. The exception is winter, when a current of cold water originating in the Sea of Japan passes along the northern coastline of the South China Sea almost reaching Hainan. This cold water current brings the February sea temperature in the Hong Kong area down to 16 deg

C. similar to that of waters in southern Japan 700 miles further north and allows wintering seabirds from Japan to move down the China coast into Hong Kong waters and further west.

Apart from these wintering birds, most of the other seabird species seen in Hong Kong waters are migrating through the South China Sea from wintering areas around the equator to breeding areas in the north. Three species of terns from this group, Roseate, Black-naped and Bridled, remain to breed in Hong Kong waters in small numbers, all near the northern limit of their breeding range. One migrating seabird species, the Short-tailed Shearwater, breeds in southern Australia and is moving north for its winter (the Hong Kong summer).

Seabird migration routes in the South China Sea are shown in Fig 1.

In addition to these true migrants, the occasional wandering Booby or Frigatebird can be seen in Hong Kong waters.

Fig 1. Seabird Migration Routes in the South China Sea.

Seasonal Variations in Numbers of Seabirds

Spring, from March through to May, is by far the most productive season for seabirds in Hong Kong as can be seen from Fig 2, which is a weekly chart of seabird numbers seen from Po Toi over the period 2006-2009

This is because most seabirds seen in Hong Kong are on migration. Spring migration includes both species wintering around the coast of South China and species crossing the South China Sea from south to north. Seabirds crossing the South China Sea from north to south in autumn need to make a major error in navigation to pass near to Hong Kong, and their numbers are therefore quite low. The exception is during typhoons, which occur in Hong Kong mostly in the autumn. Those coming in from the east can often bring unusual numbers of seabirds into Hong Kong waters.

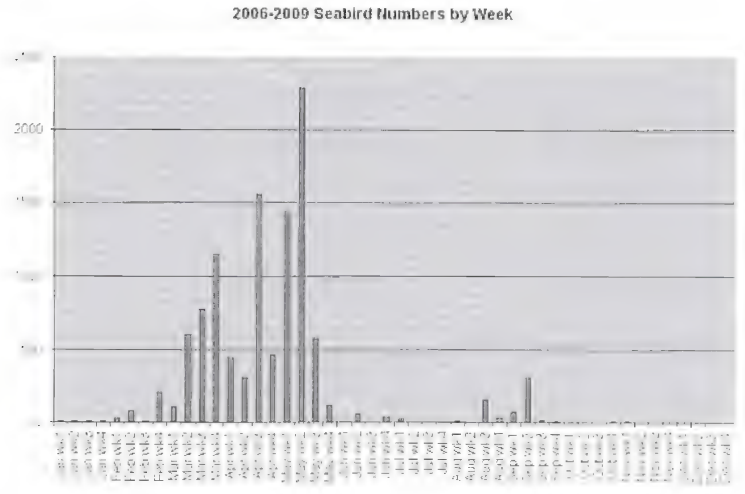


Fig 2. Seabird Numbers from Po Toi Island by Week, 2006-2009

Seabird Species

5.1 Winter Visitors

The commonest family of seabird winter visitors is the gull family and the species most likely to be seen at sea in Hong Kong waters is Heuglin's Gull, *Larus heuglini taimyrensis*. This is one of the eastern equivalents of the Herring Gull, breeding in central north Siberia and conducting a long migration from there to coastal areas of East Asia from Japan to South China. Several hundred of these birds winter locally in southern Hong Kong waters, mainly feeding of ship waste, and migrate north in small flocks in March. Other gull species which regularly winter at sea around Hong Kong in small numbers include Black-tailed Gull, *Larus crassirostris* and Slaty-backed Gull, *Larus schistisagus*.

Great Cormorants *Phalacrocorax carbo* can be seen around the southern coastline of Hong Kong in winter, and Japanese Cormorant *Phalacrocorax capillatus* is a recent addition to the Hong Kong list. Three species of diver have been added to the list since 1997, Pacific *Gavia pacifica*, Red-throated *Gavia stellata* and most recently White-billed Diver *Gavia adamsii*, all winter records. It is likely that more birds from this family will be seen with more regular winter sea-watching.

Small flocks of Red-breasted Merganser *Mergus serrator* winter in the Pearl River Delta and can be seen migrating past Hong Kong in March. Ancient Murrelet *Synthliboramphus antiquus* occur in small numbers both in winter and on migration in March and one of the more remarkable recent additions to the Hong Kong list is a single Japanese Murrelet *Synthliboramphus wumizusume* seen from a HKBWS pelagic in spring 2007.

Three Heuglin's Gulls (adult, first spring and second spring) and a Black-tailed Gull (first spring). Both species are regular winter visitors to the busy shipping lanes of Hong Kong. *Photo:* Geoff Welch.

5.2 Spring migrants

Spring migrants form the bulk of seabirds to be seen around Hong Kong, including those winter visitors mentioned above seen on migration in spring.

Spring is the most likely time of the year to see shearwaters around Hong Kong. Two species are regular, Streaked *Calonectris leucomelas* and Short-tailed Shearwater *Puffinus tenuirostris*. The former is a well-known inhabitant of East Asian waters, breeding in large numbers in Japan and spreading south in winter. The latter is the most remarkable discovery of recent years. Since the first record in 2004, it is now known that Short-tailed Shearwaters are regular spring passage migrants through Hong Kong in early May, with probably up to one hundred birds involved annually. These birds are presumably part of the annual migration of Short-tailed Shearwaters north from their breeding grounds in southern Australia to their wintering areas off Japan, having entered the South China Sea through Indonesian or Philippine waters.

Red-necked Phalarope *Phalaropus lobatus* are common in Hong Kong waters in March and April, usually seen in small groups, although occasionally movements of up to a thousand have been recorded. Three species of skua are regularly seen throughout April with Long-tailed *Stercorarius longicaudus* (photo 6) being the commonest followed by Pomarine *Stercorarius pomarinus* and Arctic Skua *Stercorarius parasiticus* being the least common.

Terns are well represented, from the beginning of April to the middle of May. The earliest species to pass through are Great Crested *Sterna bergii*, Common *Sterna hirundo* and Aleutian Tern *Sterna aleutica* followed by Black-naped *Sterna sumatrana*, Bridled *Sterna anaethetus* and Gull-billed Tern *Gelochelidon nilotica* in late April with Whiskered *Chlidonias hybrida* and White-winged Tern *Chlidonias leucoptera* occurring in large migrating flocks in early May. Somewhat surprisingly, Hong Kong is probably the most reliable place to see Aleutian

Tern away from its breeding grounds. Other species seen occasionally in off-shore waters are Caspian *Sterna caspia* and Little Tern *Sterna albifrons*.

Summer Breeders

Long-tailed Skuas - the most common skua in Hong Kong waters in spring.
Photo: Peter and Michelle Wong.

Black-naped, Bridled and Roseate Tern *Sterna dougallii* all breed in small numbers on islands around Hong Kong, and can be seen from certain ferries in June and July.

Autumn Migrants

As stated above, relatively few seabirds are seen in Hong Kong waters on autumn migration. Those that are regular occur in a very brief period in late August and early September (see fig 2) and include Red-necked Phalarope, Common and Aleutian Terns.

A recent addition to Hong Kong bird-watching activity has been autumn typhoon sea-watching. This is not without its hazards and discomforts but sometimes results in some extraordinary records. Any seabird species in the vicinity of the Luzon Straight can be picked up by a westwards moving typhoon and deposited on the shores of Hong Kong. Almost all Hong Kong records of Wedge-tailed Shearwater *Puffinus pacificus* and Sooty Tern *Sterna fuscata* have occurred this way.

Occasional Wanderers

Frigatebirds and Boobies are well-known wanderers, particularly immature birds, and three species of each have been seen in Hong Kong. Lesser *Fregata ariel*, Greater *Fregata minor* and Christmas Island Frigatebird *Fregata andrewsi* and Brown *Sula leucogaster*, Red-footed *Sula sula* and Masked Booby *Sula dactylatra*. Of these, Lesser Frigatebird and Brown Booby are by far the most regular, of annual occurrence usually in spring.

A single immature White-tailed Tropicbird *Phaethon lepturus* was added to the Hong Kong list from a spring HKBWS pelagic in 2008 but before completing this section, mention must be made of the most remarkable Hong Kong seabird record of all. A *Pterodroma* petrel was watched being chased by a Lesser Frigatebird over the Mai Po marshes in March 2001. The petrel is as yet unidentified, but appears to have been either a Providence *Pterodroma solandri* or a Kermadec Petrel *Pterodroma neglecta*.

White-billed Diver – a first record for Hong Kong, January 2008.
Photo: Peter and Michelle Wong.

Summary

Although seabirds have never been an important part of the bird-watching focus in Hong Kong, it is now realized that they can be a rewarding area of study, especially in spring when they are most frequent in Hong Kong waters. I would not recommend bird-watching visitors to travel to Hong Kong just to see seabirds but if they are visiting in April or May they should consult the HKBWS website to see if a pelagic trip is available. For local birdwatchers, seabirds will continue to be of increasing interest and provide a disproportionate addition to the Hong Kong list of species.

References

Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R.W., Melville, D.S., Turnbull, M. and Young, L. (2001): *The Avifauna of Hong Kong*. HKBWS, Hong Kong.

1999/2000, 2001/2002 and 2003/2004 Annual Reports. HKBWS.

HKBWS website www.hkbws.org.hk

Aleutian Terns - regular spring and autumn passage migrant through Hong Kong. This tern is nick-named 'Pollution' Tern in Hong Kong because of its habit of resting on floating waste. *Photo:* Peter and Michelle Wong.

Wilson's Storm-petrel *Oceanites oceanicus*, off Port MacDonnell, South Australia, 8 November 2009. *Photo:* Neil Cheshire.

Sea Swallow 59 (2010)

STABLE ISOTOPES IN SEABIRD STUDIES: MATHEMATICAL MODELLING OF DIET COMPOSITION

Alexander L. Bond

Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, A1B 3X9 Canada
E-mail: abond@mun.ca, Tel: +1 709 864 8141, Fax: +1 709 864 3018

Introduction

In the last 20 years, the use of stable isotopes of carbon and nitrogen in seabird diet studies has increased rapidly (Inger & Bearhop, 2008; Bond & Jones, 2009). Stable isotopes are naturally occurring forms of atoms that differ in the number of neutrons. Both carbon and nitrogen have two stable (i.e., non-decaying) isotopes. The ratios of 13C/12C (or δ13C) and 15N/14N (or δ15N) can be used to infer trophic position, foraging location (inshore vs. offshore), ecological niche width, and a variety of other dietary characteristics (Peterson & Fry, 1987; Kelly, 2000). Isotope ratios are expressed as the parts-per-thousand ratio of the heavier to the lighter isotope in a sample as compared with an international standard:

$$X = \frac{R_{sample}}{R_{standard}} \quad 1 \quad 1000$$

Isotope discrimination occurs because of physiological effects at the molecular level, and is the result of preferential uptake of either the heavier or lighter isotope. 14N is excreted preferentially in nitrogenous wastes (Steele & Daniel, 1978; Minagawa & Wada, 1984), resulting in an increase of between 2-5‰ with each trophic step (Kelly, 2000). There is a small increase in δ13C with trophic position at lower trophic levels (1-2‰, DeNiro & Epstein, 1978; Tieszen et al., 1983; Schoeninger & DeNiro, 1984), but in most marine systems, this enrichment in 13C does not occur among vertebrate consumers (Rau et al., 1983; Hobson & Welch, 1992).

Precise discrimination factors are specific to the species, tissue, and prey type of interest (DeNiro & Epstein, 1981; Bearhop et al., 2002; Vanderklift & Ponsard, 2003; Caut et al., 2008), and can also be influenced by nutritional state (Hobson et al., 1993; Cherel et al., 2005). For example, an Arctic Tern (Sterna paradisaea) feather will be enriched differently than blood, and also from Common Tern (S. hirundo) feathers. Some discrimination factors are known for marine birds (Becker et al., 2007; Bond & Jones, 2009), but this pales in comparison with the number of species that are the focus of investigations making use of SIA. The challenge to researchers is that, to determine a species' discrimination factor, individuals must be kept on a diet of constant and known isotope ratios, and maintaining the captive populations required is difficulty, especially for seabirds (e.g., Oehler et al., 2001). As a result, ecologists working with seabirds for which there are no published discrimination factors are forced to use proxy or surrogate discrimination factors from another species. The mathematical models that take discrimination factors, and prey and consumer isotope ratios are very sensitive to even small changes in discrimination factors, and if using proxy or surrogate discrimination factors, this can result in inaccurate model results.

Stable isotope studies are advantageous in that only small amounts of tissue (< 1 mg) are required for analysis. As such, non-lethal sampling protocols for feathers and blood are the most prevalent. Isotope ratios in feathers are representative of the diet at the time of tissue synthesis, and once grown, feathers are inert and receive no additional nutrients, while isotope ratios in whole blood reflect the diet of the previous 2-3 weeks (Hobson & Clark, 1992, 1993). My objective was, therefore, to determine the discrimination factors for whole blood and feathers for two planktivorous seabirds - Least *(Aethia pusilla)* and Whiskered Auklets *(A. pygmaea)*. There have been only two other published discrimination factors for alcids - Common Murres *(Uria aalge)* and Rhinoceros Auklets *(Cerorhinca monocerata)*, both piscivores (Becker et al., 2007; Sears et al., 2009).

In collaboration with the Cincinnati Zoo and Botanical Gardens, Least and Whiskered Auklets were kept on a constant diet of krill, mealworms, and vitamin supplements from May-October 2008. At the end of the study, we sampled the innermost primary feather (grown during the study), and 0.5 mL of blood. To ensure isotopic consistency of the diet over time, voucher prey samples were taken every 4-6 weeks. All samples were analysed for 3C and 15N, with the generous financial support of the Royal Navy Bird Watching Society's Captain Simpson Scholarship. The final statistical analyses will be conducted in the fall of 2010, and will provide, for the first time, this critical physioecological information on planktivorous seabirds.

Acknowledgements

We thank the technical staff of the Cincinnati Zoo and Botanical Garden for assistance in maintaining the captive auklet populations. The Captain Simpson Scholarship from the Royal Navy Bird Watching Society provided for analytical support, and the Natural Sciences and Engineering Council of Canada provided additional funding. A. Pye gave assistance in the lab. The Institutional Animal Care Committee of Memorial University of Newfoundland approved this project (Protocol 08-18-IJ).

Literature Cited

Bearhop, S., Waldron, S., Votier, S.C. & Furness, R.W. (2002). *Factors that influence assimilation rates and fractionation of nitrogen and carbon stable isotopes in avian blood and feathers.* Physiological and Biochemical Zoology 75:451-458.

Becker, B.H., Newman, S.H., Inglis, S. & Beissinger, S.R. (2007). *Diet-feather stable isotope (_15N and _13C) fractionation in Common Murres and other seabirds.* Condor 109:451-456.

Bond, A.L. & Jones, I.L. (2009). *A practical introduction to stable-isotope analysis for seabird biologists: approaches, cautions and caveats.* Marine Ornithology 37:183-188.

Caut, S., Angulo, E. & Courchamp, F. (2008). *Caution on isotope model use for analyses of consumer diet.* Canadian Journal of Zoology 86:438-445.

Cherel, Y., Hobson, K.A., Bailleul, F. & Groscolas, R. (2005). *Nutrition, physiology, and stable isotopes: new information from fasting and moulting penguins.* Ecology 86:2881-2888.

DeNiro, M.J. & Epstein, S. (1978). *Influence of diet on the distribution of carbon isotopes in animals.* Geochimica et Cosmochimica Acta 42:495-506.

DeNiro, M.J. & Epstein, S. (1981). *Influence of diet on the distribution of nitrogen isotopes in animals.* Geochimica et Cosmochimica Acta 45:341-351.

Hobson, K.A., Alisauskas, R.T. & Clark, R.G. (1993). *Stable-nitrogen isotope enrichment in avian tissues due to fasting and nutritional stress: implications for isotopic analyses of diet.* Condor 95:388-394.

Hobson, K.A. & Clark, R.G. (1992). *Assessing avian diets using stable isotopes I: turnover of 13C in tissues.* Condor 94:181-188.

Hobson, K.A. & Clark, R.G. (1993). *Turnover of 13C in cellular and plasma fractions of blood: implications for nondestructive sampling in avian dietary studies.* Auk 110:638-641.

Hobson, K.A. & Welch, H.E. (1992). *Determination of trophic relationships within a high Arctic marine food web using _13C and _15N analysis.* Marine Ecology Progress Series 84:9-18.

Inger, R. & Bearhop, S. (2008). *Applications of stable isotope analysis to avian ecology.* Ibis 150:447-461.

Kelly, J.F. (2000). *Stable isotopes of carbon and nitrogen in the study of avian and mammalian trophic ecology.* Canadian Journal of Zoology 78:1-27.

Minagawa, M. & Wada, E. (1984). *Stepwise enrichment of 15N along food chains: further evidence and the relation between _15N and animal age.* Geochimica et Cosmochimica Acta 48:1135-1140.

Oehler, D.A., Schmid, S.C. & Miller, M.P. (2001). *Maintaining Least Auklet, Aethia pusilla, at the Cincinnati Zoo & Botanical Garden: Hand-rearing protocol with field, development and behavioural observations.* Der Zoologische Garten (Neue Folge) 71:316-334.

Peterson, B.J. & Fry, B. (1987). *Stable isotopes in ecosystem studies.* Annual Review of Ecology and Systematics 18:293-320.

Rau, G.H., Mearns, A.J., Young, D.R., Olson, R.J., Schafer, H.A. & Kaplan, I.R. (1983). *Animal 13C/12C correlates with trophic level in pelagic food webs.* Ecology 64:1314-1318.

Schoeninger, M.J. & DeNiro, M.J. (1984). *Nitrogen and carbon isotopic composition of bone collagen from marine and terrestrial animals.* Geochimica et Cosmochimica Acta 48:625-639.

Sears, J., Hatch, S.A. & O'Brien, D.M. (2009). *Disentangling effects of growth and nutritional stress on seabird stable isotope ratios.* Oecologia 159:41-48.

Steele, K.W. & Daniel, R.M. (1978). *Fractionation of nitrogen isotopes by animals: a further complication to the use of variations in the natural abundance of 15N for tracer studies.* Journal of Agricultural Science 90:7-9.

Tieszen, L.L., Boutton, T.W., Tesdahl, K.G. & Slade, N.A. (1983). *Fractionation and turnover of stable carbon isotopes in animal tissues: implications for _13C analysis of diet.* Oecologia (Berlin) 57:32-37.

Vanderklift, M.A. & Ponsard, S. (2003). *Sources of variation in consumer-diet _15N enrichment: a meta-analysis.* Oecologia 136:169-182.

Flesh-footed Shearwater *Puffinus carneipes*, 38.4S 140.6E off Port MacDonnell, South Australia, 31 January 2010. *Photo:* Neil Cheshire.

SEAWATCH SW ANNUAL REPORT 2009

National Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

MARINE life

Editors

Russell B Wynn and Alice R Jones (NOCS and SeaWatch SW)
Tom M Brereton and Kate M Lewis (Marinelife)

Wynn, R.B., Brereton, T.M., Jones, A.R. and Lewis, K.M. (2010) SeaWatch SW Annual Report 2009. National Oceanography Centre, Southampton, 118 pp.

Balearic Shearwater in Lyme Bay. *Photo:* Tom Brereton/Marinelife)

Executive summary

SeaWatch SW is a volunteer-based project that started in 2007 and is scheduled to run until 2011 at least. The main aim is to improve understanding of the distribution and behaviour of migratory marine megafauna, both for scientific and conservation purposes. The priority is the Critically Endangered Balearic Shearwater, but other migratory seabirds as well as Basking Sharks, Ocean Sunfish and cetaceans are the focus of intensive monitoring off southwest England.

Part 1: Balearic Shearwater monitoring in UK and Irish waters
A total of 983 Balearic Shearwater records were received from the UK and Ireland in 2009, relating to a maximum of 4824 birds. Numbers reported over the three years 2007-09 have therefore remained stable, with the number of records averaging about 900 (±100) per year and the maximum number of birds seen averaging about 5100 (±300) per year. It should be noted that these maximum totals will include significant duplication, as some birds may remain in an area for several days or are recorded passing multiple watchpoints.

The temporal distribution of Balearic Shearwater sightings in 2009 was comparable to 2007 and 2008. The now expected mid-winter influx into southwest England was noted in January,

but very few were then seen until birds began returning to southern England in May. The June total was lower than expected, but numbers rapidly increased to a peak between July and October. Regular records came from southwest England up to mid-December, but few were seen elsewhere in the late winter.

As with previous years, about two-thirds of records came from southwest England, particularly Cornwall, Devon and Dorset. About 9% of records came from Ireland and 7% from Wales, with less than 2% from Scotland. Sightings away from southwest England peaked in August and September. The highest day total was a record Devon count of 145 off Berry Head on 2 Sept. Overall, the spatio-temporal distribution of Balearic Shearwater sightings in 2007-09 has been remarkably consistent.

Part 2: Land-based monitoring from Gwennap Head (Cornwall)

Effort-based monitoring of all seabirds, cetaceans and other target species was undertaken at Gwennap Head (Cornwall) between 15 July and 15 Oct 2009. About 40 volunteer observers helped man the watchpoint for 93 consecutive days, with dawn-to-dusk observations totalling almost 1000 hours for the third year in succession. It was another unsettled summer in Cornwall, with a dominance of strong winds veering between southwest and northwest in July and August, but more settled and variable conditions in September and October.

Balearic Shearwaters were seen on 90 out of 93 survey dates (same as 2008), with a maximum total of 1422 birds recorded. Totals over the three years 2007-09 have therefore averaged about 1200 (±225). It is likely that some birds are recorded on multiple dates, but these results indicate that overall passage rates over the three years have remained consistent. The pattern of movement was also very similar to previous years, with most birds (96%) flying west and 61% seen during morning sessions. The peak day counts were 78 on 4 Oct and 91 on 12 Oct.

SeaWatch SW observers at the Gwennap Head watchpoint. *Photo:* Russell Wynn.

It was a bumper year for rare seabirds during the Gwennap Head survey, with the highlight being a first or second-year Black-browed Albatross moving west close inshore on 26 July (the first in Cornwall for over 20 years). Two Wilson's Storm Petrels were then seen foraging offshore with European Storm Petrels on 1 Aug, during an unprecedented influx into the region. Three sightings of Fea's-type petrels were made between 30 Aug and 2 Sep, with at least two different birds thought to be involved. Finally, there were three sightings of Yelkouan-type shearwaters during August, and the SeaWatch SW team is currently leading efforts to establish the specific identification and origin of these birds (see below).

Totals of other shearwater and petrel species seen during the Gwennap Head survey included 27,508 Manx Shearwaters, 527 Sooty Shearwaters, 509 European Storm Petrels, 31 Cory's Shearwaters and seven Great Shearwaters. Numbers of Manx Shearwaters, Sooty Shearwaters and European Storm Petrels were very similar to 2008, but there was no repeat of the Cory's Shearwater influx of that year. The peak movement of Sooty Shearwaters was 109 on 2 Sep, coinciding with record numbers seen further east.

Numbers of Arctic Skuas, Kittiwakes, Sandwich Terns and Common/Arctic Terns were markedly lower than in previous years, although Great Skua numbers remained stable. The main passage of Arctic Skuas and Kittiwakes in early October was again synchronised, but was significantly lighter and later than in 2007 and 2008. Numbers of Guillemots and Puffins have increase progressively over the three years, whereas Razorbill numbers have remained stable.

Records of scarce seabirds included single Goosander, Red-necked Grebe, Leach's Storm Petrel, two Sabine's Gulls, two Yellow-legged Gulls, three Black Terns, five Little Gulls, seven Grey Phalaropes and 16 Pomarine Skuas. The total of 84 Mediterranean Gulls is a further increase, and is presumably related to increased dispersal of birds from the rapidly-growing breeding population in northwest Europe.

Migrant waterbirds seen offshore of Gwennap Head included 14 Grey Herons, 17 Little Egrets and 91 Whimbrel. Migrant land birds found by SeaWatch SW observers around Gwennap Head and nearby Porthgwarra Valley included a fly-over Purple Heron on 16 Sep, two Marsh Harriers, several Merlins, and a juvenile Hobby and a Woodcock in off the sea in October. Small birds included Dartford Warbler, Firecrest and Pied Flycatcher. Two Choughs were seen on four dates. A juvenile Peregrine was seen unsuccessfully attacking a number of seabird species offshore, including Black-headed Gull, Kittiwake, several Razorbills and even a Balearic Shearwater!

Six species of cetacean were observed during the Gwennap Head survey. Harbour Porpoises were regularly encountered, being seen on about two-thirds of survey dates. The maximum total of 412 animals is very similar to the 2007 and 2008 totals. Minke Whales were seen on 20 dates, with a maximum total of 46 animals recorded. This total is also comparable to previous years. Both species were regularly observed foraging in the tide race around the margin of Runnelstone Reef.

Common Dolphin numbers were higher than in 2008, with a maximum total of 684 including a superpod of at least 200 in mid-August. Both Risso's and Bottlenose Dolphins continue to make sporadic appearances, and were seen on six and ten dates, respectively. The cetacean

highlight was probably a pod of 20-25 White-beaked Dolphins moving west on 10 Oct; the first record in almost 3000 hours of survey effort at this site and one of the largest pods in Cornwall in recent years.

Numbers of Grey Seals using the haul-out to the west of Gwennap Head remained stable, peaking at 18-20 animals on several dates. A clear cyclic pattern to the numbers using this haul-out is emerging, related to the fortnightly spring-neap tidal cycle. Prey items included wrasse, mullet, bass and even a conger eel! A maximum total of 20 Ocean Sunfish were seen, a reduction on previous years. Most sightings were made in July and August.

It was a very poor year for Basking Shark sightings in southwest waters during the survey period, presumably linked to the dominance of unsettled weather conditions. A maximum total of 71 surface sightings were made off Gwennap Head, almost an order of magnitude lower than the 2007 total. Few were seen in July and August, with a peak in September for the third year in a row. The highest count of animals seen at the surface simultaneously was just 12 on 25 Sep. There was just one record of breaching in 2009.

Other notable wildlife recorded at Gwennap Head included a buck Roe Deer on the cliff edge on 20 July, and a small specimen of Portuguese Man-o-War washed up in the adjacent cove on 29 July. This stranding was one of many of this species in southwest UK in late summer 2009, related to the dominance of strong south and southwest winds at this time.

Visual monitoring data are providing increasing evidence that the Runnelstone Reef, offshore of the Gwennap Head watchpoint, is an important foraging area for a range of species. The visible tide race around the reef margin regularly attracts feeding seabirds (eg Manx Shearwaters, European Storm Petrels, Gannets, Herring Gulls and Puffins), cetaceans (especially Harbour Porpoises), Grey Seals and Basking Sharks, with occasional Balearic Shearwaters and Minke Whales also utilising this habitat.

Basking Shark feeding along a froth line off Gwennap Head, with the dorsal fin, tail fin and white inner mouth all visible. *Photo:* Russell Wynn.

As with previous years, small-scale disturbance by boats and kayaks was noted off Gwennap Head on multiple dates. Grey Seals and Shags were disturbed from their low-tide haul-out and roost site by kayakers, while Basking Sharks were seen being closely pursued by leisure craft. On one occasion, a group of snorkelers was seen to surround a Basking Shark to within touching distance, although the shark appeared to be relatively unaffected and continued surface foraging. The small fleet of local fishing boats was again seen to have negligible impact on any of the survey target species.

Part 3: Land-based observations from sister sites

Timed observations were carried out at five sister sites, totaling over 1200 hours of observations. Data from four sites in southwest UK (Berry Head in south Devon, Pendeen and Trevose Head in northwest Cornwall and Strumble Head in Pembrokeshire), help to put the Gwennap Head sightings into a regional context. Whitburn in northeast England is contributing data that may help link seabird migratory movements between the North Sea and western English Channel.

The total numbers of target species seen from the six SeaWatch SW watchpoints are tabulated below. The upper summary table shows the total number of seabirds and cetacean/fish recorded, while the lower table shows the rates of birds per hour, although only those species passing at rates >0.2 birds per hour are listed:

Total numbers of target species recorded

Species	Gwennap	Berry	Pendeen	Trevose	Strumble	Whitburn
Total hours	998.5	135.5	144	118	478	343
Balearic Shearwater	1422	379	276	149	122	12
Common Scoter	733	219	75	120	3258	4784
Red-throated Diver	0	0	0	1	13	597
Black-throated Diver	3	0	0	0	0	9
Great Northern Diver	9	0	0	3	0	7
Cory's Shearwater	31	0	10	1	0	3
Great Shearwater	7	0	14	2	3	2
Sooty Shearwater	527	610	341	142	89	236
Manx Shearwater	27508	1504	>15337	43461	NC	11354
European Storm Petrel	509	16	562	39	84	0
Leach's Storm Petrel	1	0	0	1	3	0
Grey Phalarope	7	0	53	1	1	0
Pomarine Skua	16	8	6	2	17	44
Arctic Skua	152	169	150	53	353	344
Long-tailed Skua	0	3	0	0	3	1
Great Skua	361	182	90	36	152	322
Mediterranean Gull	84	13	4	2	47	13
Little Gull	5	3	6	0	12	71
Sabine's Gull	2	2	14	2	23	4
Yellow-legged Gull	2	10	0	1	0	0
Kittiwake	5932	1852	NC	1385	NC	NC
Sandwich Tern	141	159	153	233	947	3900
Roseate Tern	0	0	0	2	19	85
Common/Arctic Tern	132	703	214	110	1304	4792

Little Tern	5	0	15	19	8	10
Black Tern	3	2	2	3	7	12
Guillemot/Razorbill	8311	NC	NC	1504	NC	NC
Puffin	264	45	2	41	47	207
Minke Whale	46	0	0	0	0	1
Risso's Dolphin	33	0	0	0	24	0
Bottlenose Dolphin	104	10	0	0	20	20
Common Dolphin	684	0	10	8	330	0
Basking Shark	71	0	44	0	1	0
Ocean Sunfish	20	5	8	2	34	0

Passage rates in birds per hour

Species	Gwennap	Berry	Pendeen	Trevose	Strumble	Whitburn
Total hours	998.5	135.5	144	118	478	343
Balearic Shearwater	1.42	2.80	1.92	1.26	0.26	0.04
Common Scoter	0.73	1.62	0.52	1.02	6.82	13.95
Sooty Shearwater	0.53	4.50	3.41	1.20	0.19	0.69
Manx Shearwater	27.56	11.10	>106.8	368.31	NC	33.12
European Storm Petrel	0.51	0.12	3.91	0.33	0.18	0
Arctic Skua	0.15	1.25	1.04	0.45	0.74	1.00
Great Skua	0.36	1.34	0.63	0.31	0.32	0.94
Kittiwake	5.94	14.82	NC	11.74	NC	NC
Sandwich Tern	0.14	1.17	1.07	1.97	1.98	11.38
Common/Arctic Tern	0.13	5.19	1.49	0.93	2.73	13.97
Guillemot/Razorbill	8.33	NC	NC	13.67	NC	NC
Puffin	0.26	0.33	0.01	0.35	0.10	0.60

The above tables reveal some interesting patterns, although variable effort between sites means direct comparisons should be treated with caution. Only the data from Gwennap Head are effort-based, i.e. fixed hours every day during the survey period. Despite these limitations it is clear that Balearic Shearwater passage rates were fairly consistent across southwest England (1.3-2.8 birds per hour), with lower rates off Strumble Head and very few off Whitburn.

Passage rates of wildfowl, e.g. Common Scoter, and terns are much higher off Whitburn than off southwest UK, although numbers of skuas are comparable between regions. Manx Shearwaters and Guillemots/Razorbills are most abundant off Strumble Head and northwest Cornwall, which are in close proximity to major colonies. The high passage rate of Common Scoters off Strumble Head, compared to sites off northwest Cornwall, is due to birds moving to wintering grounds in Carmarthen Bay (south Wales) where 40,000 were counted in February 2010.

Eiders passing the sister site at Whitburn.
Photo: Mark Newsome.

Looking at year-to-year variations at those sites with sufficient data (Gwennap Head, Berry Head, Trevose Head and Strumble Head), it is clear that passage rates of Arctic Skua, Kittiwake, Sandwich Tern and Common/Arctic Tern were lower in 2009 than in 2008, but Puffins were seen in higher numbers at all sites. The other regularly occurring seabirds showed no overall change.

The highlight off Berry Head was probably a Devon record count of 145 Balearic and 582 Sooty Shearwaters on 2 Sep, with two Yelkouan-type shearwaters seen the same day. Wilson's Storm Petrels were seen off Pendeen, Trevose Head and Strumble Head, while a Madeiran Storm Petrel was seen passing both Pendeen and Trevose Head on 2 Sep. As with Yelkouan Shearwater, this species is yet to be officially admitted to the British List, partly due to a combination of identification and taxonomic issues.

The heaviest seabird passage off Whitburn in the North Sea occurred from 13-16 Sep, with four-figure counts of Manx Shearwaters, Gannets, Wigeon, Kittiwakes and Guillemots, and three-figure counts of Red-throated Divers, Fulmars, Sooty Shearwaters, Common Scoters, Arctic Skuas, Great Skuas and Puffins. Initial comparison with sites off southwest UK shows little obvious correlation in the timing of peak movements between the two regions.

Part 4: Marinelife boat-based surveys in the western English Channel

Marinelife surveys in the western English Channel increased in range and intensity in 2009, largely due to additional funding from Natural England and the EU Charm III project, and a new eco-tourism initiative. These effort-based and opportunistic surveys utilised a range of platforms, including ferries and angling charter boats.

Most at-sea Balearic Shearwater sightings involved records of one or two birds, concentrated in coastal areas such as Portland Bill, Lyme Bay and northern France. Many records involved birds scavenging around angling and fishing boats in coastal waters. Again, there is no evidence that land-based monitoring is missing significant offshore movements or aggregations of this species off southern England. An interesting development has been the discovery of very large numbers of Balearic Shearwaters in moulting and foraging aggregations off northern Brittany, involving at least 2000 birds. Further survey work in 2010 and 2011 will better constrain the numbers involved in these aggregations.

Large numbers of auks were noted in Lyme Bay in February 2009, estimated at 16,000 Guillemots and 4000 Razorbills. An unseasonal Great Shearwater was also seen in Lyme Bay in February. Large foraging aggregations involving hundreds of Gannets and Manx Shearwaters were seen in western Lyme Bay in August. Other notable records in the English Channel included single Fea's-type petrel and Wilson's Storm Petrel (within UK waters) in Aug-Sep, and a Black-browed Albatross reported by a fisherman off Salcombe (south Devon) on 23 July (presumably the same as the Gwennap Head bird).

It was deemed to be a poor year for cetaceans and Basking Sharks in the English Channel, partly due to the dominance of unsettled windy weather for much of the summer. Despite this, a total of over 550 cetacean sightings relating to 11 species were made during Marinelife surveys in the region. Harbour Porpoise was the most frequently encountered cetacean, with 260 sightings relating to a maximum of 618 animals. A small wintering population in Lyme Bay was a new and important finding.

There were over 100 Common Dolphin sightings, mostly in deeper water during the early winter and spring periods. Bottlenose Dolphins were also regularly recorded, with 93 widely scattered sightings relating to a maximum of 1540 animals. Largest numbers were seen in summer and autumn, and included two pods of ~100 animals. One individual with a distinctively notched dorsal fin (Cookie) was seen off west Cornwall, south Devon and south Dorset in 2009.

Small numbers of White-beaked Dolphins were again recorded in outer Lyme Bay, with 19 sightings relating to about 170 animals. Most sightings were between early July and late October, although up to 13 were seen in early January. Lyme Bay is the most southerly known regular site in Europe for this cold-water species. Several calves were noted in early August, amongst a group of 35 animals present for several days off Berry Head, feeding on pelagic fish. A total of 20 different animals were photographed, including one in central Lyme Bay in October 2009 that was first photographed 15 km away in August 2007.

Scarcer cetaceans seen during Marinelife surveys in the western English Channel included single Cuvier's Beaked Whale and Northern Bottlenose Whale (which sadly died), and small numbers of Long-finned Pilot Whale, Risso's Dolphin and Striped Dolphin. There were 24 Minke Whale sightings in 2009, but no Fin Whales in a poor year for the species in the Biscay-southwest UK region. Just nine Basking Sharks were seen, and only six Ocean Sunfish.

Marinelife survey work was featured on the BBC 'One Show' in Nov 2009, and filming for the BBC 'Coast' series was also carried out (showing in autumn 2010).

Part 5: SeaWatch SW project news

SeaWatch SW and SAHOFS hosted the third annual South West Marine Ecosystems (SWME) meeting, held in Plymouth on 14 Dec 2009. About 40 invited representatives of various science and conservation organisations were in attendance, and provided an overview of environmental conditions and marine wildlife sightings in 2009. The unsettled summer weather again dominated the discussions, in particular its impact on marine megavertebrate occurrence and Portuguese Man-o-War strandings.

Zooplankton sampling off Gwennap Head in Sept 2009. *Photo:* Russell Wynn.

SeaWatch SW and Marinelife data continue to contribute to a number of conservation initiatives. Project data have contributed to recent Biodiversity Action Plan and Species Action Plan updates for Basking Shark and Balearic Shearwater, respectively. Project data have also contributed to consultations on offshore renewable energy installations, and a seabird foraging fact sheet on Balearic Shearwater (produced by RSPB).

The SeaWatch SW website accumulated over 30,000 individual hits in the period 2007-09, and news items on sightings during the Gwennap Head survey appeared in local and regional media. A PhD student and several Masters-level project students at University of Southampton are working on SeaWatch SW data, investigating the spatio-temporal controls on marine megavertebrate distribution off southwest UK. Two new PhD students (Sophia Butler-Cowdry and Lavinia Suberg) will be joining the project team this autumn to further these research activities.

Data being collected by the SeaWatch SW survey team are currently contributing to a number of scientific studies, led by staff and students at the National Oceanography Centre Southampton, in collaboration with colleagues at several UK universities and research organisations. These studies include 1) geolocator tagging and colour-dyeing of Balearic and Manx Shearwaters, 2) calibration of acoustic and visual monitoring of small cetacean activity around rocky reefs, 3) land and boat-based surveys and zooplankton sampling, investigating the importance of topographically-controlled tide races to marine fauna, and 4) the influence of meteorological and oceanographic phenomena on Basking Shark, cetacean and seabird sightings off southwest UK.

SeaWatch SW is continuing in 2010, with public sightings and effort-based data on Balearic Shearwaters again being collected at a regional and national level. Effort-based surveys of

all target species are being carried out at Gwennap Head between 15 July and 15 October, supported by data from several sister sites. A variety of Marinelife boat-based surveys in the western English Channel are also continuing through 2010.

If you feel inspired after reading this report, and would like to contribute to SeaWatch SW 2010, please visit the project website and/or contact the project co-ordinator for details of how to get involved. The project website and co-ordinator addresses are shown below.

Website address - http://www.seawatch-sw.org
Co-ordinator Email - rbw1@noc.soton.ac.uk

To get involved in boat-based survey work in the western English Channel with Marinelife, contact Kate Lewis at: kate.lewis@marine-life.org.uk

Finally, we would like to thank all the individuals and organisations that contributed to SeaWatch SW 2009. Vital financial support was received from Total Foundation, RSPB, BTO, SAHFOS, RNBWS, Birdguides, The Seabird Group and Marine Information Ltd.

White-faced Storm-petrel *Pelagodroma marina*, 38.4S 140.5E, off Port MacDonnell, South Australia. *Photo:* Neil Cheshire.

OBITUARY
COMMANDER FRANK WARD ROYAL NAVY

Those of our members who watched with admiration as Frank Ward co-ordinated our Annual General Meeting in December 2009 with his customary good humour and infectious enthusiasm, will have been particularly shaken by the news of his untimely death at the very close of the year. A rare form of cancer had taken its toll after a short battle which Frank had faced with inspiring composure and with unflagging determination to make the most of every day.

Frank was a highly-respected member of the Royal Navy's Mine-Countermeasures and Diving specialisation. Whilst serving on a squadron staff in the late 1980s his path crossed with that of Mike Barritt, who was commanding *HMS Bulldog* for hydrographic support of an Anglo-French exercise. Frank dated his involvement with RNBWS from that encounter. Shortly afterwards Mike Barritt took up the chairmanship of the society, and Frank would prove to be one his most stalwart helpers. It was not long before he was in place as Local Representative in Rosyth. Frank went on to command and bring into service the lead ship of the new-generation Sandown class and afterwards to serve as the expert member of the project team introducing this and other equipment into the armed forces of the Kingdom of Saudi Arabia. During this time in MOD London he took an increasingly active role as a co-opted member of the Executive Committee and subsequently as Deputy Chairman during Mike Barritt's absence at sea. He was an adept organiser, finding venues for and facilitating arrangements for the Annual General Meetings. The famous substantial teas which ended those events were very much his trade-mark. They have remained a feature in the meetings in Fleet Headquarters Portsmouth, where Frank ended his service career, and continued as a Retired Officer in co-ordination of the work of the Royal Navy In-Service Charities. Meanwhile, in 2002, he had stepped into the big shoes of Peter Smith as Honorary Secretary and Treasurer of RNBWS.

Frank was more than equal to the task. His network of contacts facilitated a strategic aim of raising the society's profile in the RN sports and charities sector, whilst not compromising independent status and links in the ornithological world. He had the skills, and again the contacts, to create an attractive and effective web-site, and to build on the magnificent legacy of Stan Howe's computerised data base of oceanic observations. His co-workers have all commented on the hours of work by Frank which ensured that this came to fruition. Perhaps above all, he shared Peter Smith's understanding that the key to attracting enthusiastic and committed new members was to have in place a field-work and expedition programme. His partnership with Pete Carr on major expeditions such as those to the British Indian Ocean Territories was soon matched by the equally important field programme in Britain and Europe co-ordinated by Mark Cutts. Frank was rarely missing from the gatherings of a committed core, many of whom are in their turn now prominent in the healthy ongoing life of RNBWS. Field-work was also the tool with which he re-forged happy links with AOS and RAFOS, recognising that these were especially important as all three Services face pressures and constraints. He worked hard to sustain and to add to the society's cadre of local representatives around the world, never failing to high-light their work and their invitations for contact with members.

Frank Zino has written from Madeira with particularly fond memories of their hopes for an expedition to the Selvagens.

In 2007 it was decided that RNBWS should move closer to the standard organisation of RN clubs, with a senior serving officer as Chairman, and an executive General Secretary. Frank Ward stepped into the latter role at a time when all clubs were struggling to attract new members from a contracting and hard-pressed sea-going community. His strategy was already in place. The re-invigorated field programme remains a corner-stone, and it was a particular pleasure to learn at his last AGM of a highly successful gathering in Gibraltar of RNBWS veterans such as Michael Casement and Peter Smith alongside an enthusiastic new generation. The latter includes observers and photographers of considerable talent, whose work is readily observed on the freely accessible web-site, complete with RNBWS data-base in on-line format. Under Frank's leadership RNBWS also forged fruitful links with the Southampton Oceanography Centre and other environmental bodies, bringing in fresh sources of advice, and seeking to pick up the role of the Meteorological Office journal 'The Marine Observer' in encouraging records from sea. Frank had managed the society funds wisely but not restrictively during the lean years before David Simpson's generous and transformational gift. He had a particular knack for spotting the opportunities which opened up thereafter to raise the RNBWS profile whilst advancing its aims. These initiatives ranged from first day covers and sponsorship of international campaigns to financial contribution to worthy ornithological field programmes in the maritime field.

Frank will be remembered for a passionate personal enthusiasm for all aspects of maritime wildlife heritage and the sea environment, and he passed this to his daughter Clare, now nearing the end of her marine science studies. He earned the personal trust and confidence of all the trustees through his efforts to further the objectives of the organization, and indeed, without Frank's huge personal commitment, so loyally supported by June, its future was far from certain. He built up a happy and dedicated executive team, and he has left the society with a sound foundation for the future.

David Dobson

Streaked Shearwater - a regular spring passage migrant to Hong Kong from breeding grounds in Japan. *Photo:* Peter and Michelle Wong

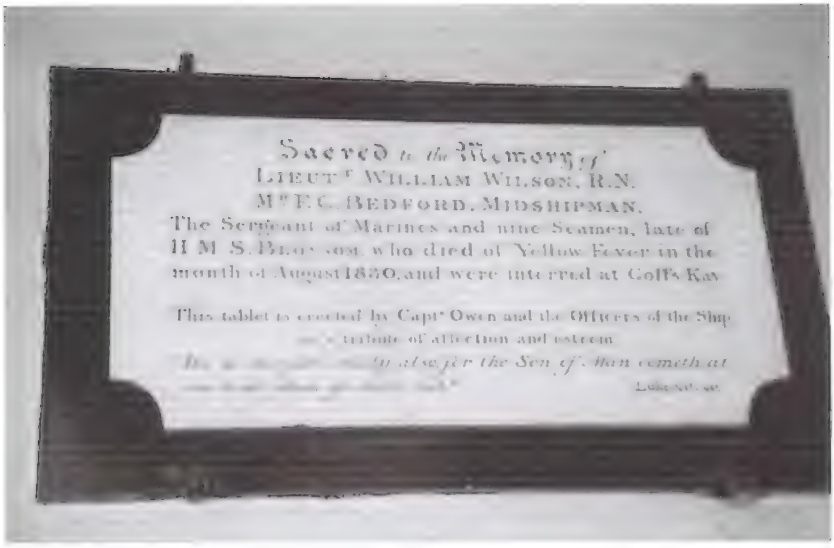
A TAIL PIECE

Following the Pacific Expedition of *HMS Blossom* (1825-28) under the command of Capt Beechey, the sloop was converted to survey duty for the rest of her serviceable life. She was rendered a hulk in 1833, and broken up in 1848. A full account of the Pacific Expedition can be read on the website
http://books.google.com/books?id=JkOzrMyZMC4C&printsec=frontcover&ie=ISO-8859-1&output=html&source=gbs_similarbooks_r&cad=3

A number of bird sightings are mentioned therein, eg for Sala-y Gomez [26:28:20S+105:25:45W] there are Boatswain Bird (*Phaethon ethereus*? - more probably *Phaethon lepturus*), Great Frigatebird (*Pelecanus leucocephalus* - now *Fregata minor*), Brown Noddy (*Sterna solida* - now *Anous stolidus*) and a small dove-coloured tern (White Tern? - *Gygis alba*).

In its subsequent survey mode, *HMS Blossom* visited British Honduras in August 1830 as witnessed by the plaque in Belize Cathedral, erected by Capt. Owen in memory of a number of the crew smitten down by Yellow Fever and buried offshore at Goff's Caye [17:20:56N+88:02:14W].

Stan Howe
Torphins
20 April 2010


Sacred to the Memory of
LIEUT.T WILLIAM WILSON, R.N.
M.TE C. BEDFORD, MIDSHIPMAN,
The Sergeant of Marines and nine Seamen, late of
H M S. Blossom, who died of Yellow Fever in the
month of August 1830, and were interred at Goff's Kay
This tablet is erected by Capt Owen and the Officers of the Ship
as a tribute of affection and esteem

Yellow-nosed Albatross (immature) *Thalassarche chlorhynchos*, 38.4S 140.6E off Port MacDonnell, South Australia, 31 January 2010.
Photo: Neil Cheshire.

Royal Naval Birdwatching Society

(Registered Charity 207619)

Gift Aid Declaration

My Full Name:

_____

My Address (inc Postcode):

_____

_____

_____

Date:

_____

I want the Royal Naval Birdwatching Society to treat the following as Gift Aid donations (delete as appropriate)

• The enclosed donation of £. . . . . .

• The donation of £ . . . . . .I made on . . . . . (dd/mm/yyyy)

• All donations I have made since 6 April 2000, and all donations I make from the date of this declaration until further notice.

Signed:

I know that I must pay an amount of income/capital gains tax at least equal to the tax the charity reclaims on my donations in that tax year.

Royal Naval Birdwatching Society

Joining Form

I am interested in joining the RNBWS and wish to be enrolled as
(☑ as appropriate)

- ☐ **£12 - Full Member -** Serving or Retired member of HM Forces or the Mercantile Marine.
- ☐ **£12 - Associate Member** - Any one with an interest in Seabirds and Birds in the Maritime Environment.
- ☐ **£12 - Library Member** - *Sea Swallow* only.
- ☐ **Free - Exchange Member** - An organisation which exchanges journals with the RNBWS.

Completed Bankers order has been forwarded to the Treasurer

Rank / Name / Decorations

_____

Mailing Address (to which Sea Swallow will be sent)

_____

_____

E-Mail and Web: _____ *Tel:* _____

Alternative Address:

_____

_____

E-Mail and Web: _____ *Tel:* _____

Please return to: Steve Copsey, 20 Shepard's Close, FAREHAM, Hants PO14 3AJ

Royal Naval Birdwatching Society

Sea Swallow Back Issues Order Form

If in stock please provide the following back issues of *Sea Swallow*:

_____

_____

Name

_____

Mailing Address (to which Sea Swallow will be sent)

_____

_____

E-Mail and Web: *Tel:*

I enclose a remittance of £. . . . . (£4 per Issue) plus postage cost per 3 issues of £1 for UK, £1.50 for the EU or £2.00 for the ROW.

For Money Order Transactions RNBWS Account details are:

Sort Code: 30-99-71 A/C No: 00117948
IBAN No: GB86LOYD30997100117948
BIC Code: LOYDGB21179

Please return to: Pete Carr, RNBWS Librarian, 6 Grenadier Close, LOCKS HEATH, Hampshire, SO31 6UE E petecarr1@hotmail.com

Royal Naval Birdwatching Society
Bankers Order Form

To: *(Banker's Name)*

Address:

On the And thereafter each 1st January unless I instruct you in writing to the contrary, please remit to
The Manager, Lloyds TSB, 49 High St, WINCHESTER, Hants SO23 9BU
for the account of the
Royal Naval Birdwatching Society,
Sort Code 30-99-71 Account No 00117948

the sum of £ and debit my Account.

A/C details:
Sort Code *Account No.*

Note: This order supersedes any previous order in force with the above Society which should therefore be cancelled.

Signature: *Print Name:*

Address:

Date:

Please send this form to the Hon Treasurer RNBWS, CPO Steve Copsey, 20 Shepards Close, FAREHAM, Hants PO14 3AJ; (copsey@tesco.net) who will forward it to your bank.

USEFUL ADDRESSES

Hon. Member and Adviser RNBWS: Dr Russell Wynn, The National Oceanography Centre, Senior Research Scientist, Marine Geology & Ecology, European Way, Southampton SO14 3ZH T 023 805 96553 **E** rbw1@noc.soton.ac.uk

RNBWS LOCAL REPRESENTATIVES - UNITED KINGDOM

Dartmouth: Dr Richard Porter, Britannia Royal Naval College, DARTMOUTH, Devon TQ6 0HJ T 01803 837233 **E** rrporter@aol.com

Portsmouth Area: Lt Cdr B F Witts OBE FRGS RN, Oakwood, Duffield Lane, Woodmancote, EMSWORTH, Hants PO10 8PZ (01243 371497).

Portland: Martin Cade. Portland Bird Observatory and Field Centre, Old Lower Light, PORTLAND, Dorset T 01305 820553 Daytime only **E** obs@btinternet.com

Humber Area: Bill Curtis, Farm Cottage, Church Lane, ATWICK, Nr DRIFFIELD E Yorks YO25 8DH T 01964 532477 **E** cwfcurtis@aol.com

RNBWS LOCAL REPRESENTATIVES - OVERSEAS

Arabian Gulf: Colin Richardson PO Box 62893, 8069 PAPHOS, Cyprus T 00357 26946682 **E** richar@cytanet.com.cy

Australia: Captain N G Cheshire MN, 7 Hodge Avenue, Encounter Bay, South Australia 5211, Australia T 61 8 855 27904 **E** diomedea@iinet.com.au

Black Sea: Gabriel Banica. Str. 1 Decembrie 1918 m-. 3. BI.FIT Ap49, 8700 CONSTANTIA. Romania **E** gabibiosys@yahoo.com

Bombay: Aasheesh Pittie **E** aasheesh.pittie@gmail.com

Falkland Islands: Ian Strange, The Dolphins, PORT STANLEY, Falkland Islands.

Gibraltar: Charlie Perez, GONHS, Strait of Gibraltar Bird Observatory, PO Box 843 Gibraltar **E** cperez@gibraltar.gi

Madeira: Dr Francis Zino, Avenida do Infante 26, Rez-do-Chao 'C', 9000 FUNCHAL, Madeira T 63292 **E** nop11015@mail.telepac.pt

Naples: Mark Walters, 181 Via Morghen, Vomero, NAPLES, Italy. **E** markw@netlab.it

USA: Dr R G Wolk PhD, 6001 Clare Court, RALEIGH, North Carolina 27609, USA. T 919 848 4812 **E** rgwolk@gmail.com

INSTRUCTIONS TO AUTHORS

Interested persons are invited to submit contributions for *Sea Swallow*; authors do not need to be RNBWS members. Material may take the form of papers, notes, progress reports, letters or reviews. The style used in *Sea Swallow* should be followed, with the standard abbreviations, nomenclature and use of references. Ideally submissions should be in MS Word or rtf format, but other formats are acceptable. Graphics should be jpeg or tiff. Manuscripts should be typed in double spacing, together with figures and diagrams. Accompanying photographs are welcome. Contributions are welcome at any time, but if for inclusion in the next edition must reach the Editor by 30 June.